DOG POUNDER AIR

GROUP GAME OPERATION MANUAL

WARNING

Be sure to read this Operation Manual before using your machine to ensure safe operation.

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BOBSSPACERACERS.COM

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JULY 2008

Federal Communications Commission (FCC) Statement

Note: This equipment has been tested and found to comply with limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate frequency energy, and, if not installed and used in accordance with the instruction manual may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.

* * *

W A R N I N G :

ALL OF BOB'S SPACE RACERS® GAMES ARE SHIPPED WITH THE SAME KEY AND LOCK SETS.

IT IS IN YOUR BEST INTEREST TO CHANGE THE KEYS AND LOCKS ON YOUR GAMES WHEN YOU RECEIVE THEM.

SERVICE POLICY

At BOB'S SPACE RACERS®, INC., our strength lies in the high quality, long lasting equipment we manufacture.

Should the need arise, we maintain both Technical Support and Customer Service staff.

Technical Support is available whenever you should need it. The direct technical 'hot line' is (386) 677-0761. This line is manned 8:30 am - 5:00 pm, EST, Monday through Friday, excluding holidays. During all other times an operator will be available to relay your problem to the technician on call. Technical Support will assist you in troubleshooting a service problem or setting equipment options.

Customer Service telephone lines are manned 8:30 am - 5:00 pm, EST, Monday through Friday, excluding holidays. Customer Service staff can be reached at (386) 677-0761 they will also take parts orders and research the status of previous orders.

As always, you can call (386) 677-0761 to reach all other departments, or you can FAX anyone at BOB'S SPACE RACERS® by calling (386) 677-0794, 24 hours a day. You can, also, e-mail us at tech@bobsspaceracers.com, 24 hours a day.

BOB'S SPACE RACERS®, INC.'S
ONE-YEAR NEW EQUIPMENT WARRANTY

1. INCLUDED IN THIS WARRANTY Bob's Space Racers®, Inc. warrants to the original purchaser only that the equipment that is the subject of this sale conforms to its specifications, and is free from defects under normal service for a one-year period from the original date of delivery. This warranty does not include any damages resulting from occurrences listed in Paragraph 2 below. This Warranty is not transferable under any circumstance. Any claims under this warranty must be received in writing by Bob's Space Racers®, Inc. within 13 months from the date of delivery. Within a reasonable time of such written notification Bob's Space Racers®, Inc. will replace or repair any defective component of the equipment or part thereof which fails for reasons other than normal services, use, or wear. Light bulbs are specifically excluded from this warranty and shall be the sole responsibility of the purchaser. Bob's Space Racers®, Inc., within its sole discretion, makes the final determination as to whether to repair or replace any component and whether any such repair or replacement shall be performed where the equipment is located or at its home facility in Volusia County, Florida, or another facility of its sole choice. Any and all freight charges for the purposes of repair or replacement shall be paid by the original purchaser. All defective parts shall be returned to Bob's Space Racers®, Inc. if requested. Bob's Space Racers®, Inc. does not warrant that the equipment will meet any original purchaser's specific requirements or that the operation of the equipment will be uninterrupted. These remedies are the original purchaser's exclusive remedies for breach of warranty.

2. EXCLUDED BY THIS WARRANTY. Bob's Space Racers®, Inc. does not warrant (a) any product, components or parts not manufactured by Bob's Space Racers®, Inc.; (b) damage caused by use of the equipment for purposes other than those for which it was designed; (c) defects caused by failure to provide a suitable installation environment for the equipment; (d) damage caused by unauthorized attachments, modification, or service; (e) damage caused by normal wear and tear or improper power supply; (f) damage caused by accident or disaster such as fire, flood, lighting and wind; (g) any other abuse or misuse of the equipment.

3. EXCLUSIVE WARRANTY. THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES OR REMEDIES, WHETHER WRITTEN, ORAL OR IMPLIED. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. ANY AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, COURSE OF DEALING OR USAGE OF TRADE ARE HEREBY EXPRESSLY DISCLAIMED AND EXCLUDED.

BOB'S SPACE RACERS®, INC.'S
ONE-YEAR NEW EQUIPMENT WARRANTY

4. REMEDIES LIMITED. UNDER NO CIRCUMSTANCES, EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, SHALL BOB'S SPACE RACERS®, INC. BE LIABLE FOR ANY LOSS OR DAMAGE, DIRECT OR INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL ARISING OUT OF THE USE OR INABILITY TO USE THIS EQUIPMENT INCLUDING BUT NOT LIMITED TO ANY CLAIM FOR LOSS OR PROFITS, LOSS OF SAVINGS OR REVENUE, LOSS OF USE OF THE EQUIPMENT, OR ANY ASSOCIATED EQUIPMENT, FACILITIES OR SERVICE, DOWNTIME, THE CLAIMS OR COST(S) OF THIRD PARTIES INCLUDING CUSTOMERS, AND INJURY TO PROPERTY.
Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

5. NO OTHER WARRANTIES. Unless modified in writing and signed by both parties, this agreement is understood to be the complete and exclusive agreement between the parties, superseding all prior agreements, oral or written, and all other communications between the parties relating to the subject matter of this agreement. No employee or representative of Bob's Space Racers®, Inc. or any other party is authorized to make any other warranty or to assume any other liability in connection with the sale of its equipment.

6. TIME LIMIT FOR CLAIMS. Any claim for breach of warranty or claims under this warranty must be received in writing by Bob's Space Racers®, Inc. within 13 months following delivery of the equipment.

7. FUTURE CHANGES. Bob's Space Racers®, Inc. reserves the right to reserve, change or modify the construction and design of its equipment or any component part or parts thereof without incurring the obligations to make such changes or modifications in present equipment.

8. ALLOCATION OF RISKS. This agreement allocates the risks of equipment failure between Bob's Space Racers®, Inc. and the original purchaser. This allocation is recognized by both parties and is reflected in the price of the goods. THE PURCHASER ACKNOWLEDGES THAT IT HAS READ THIS AGREEMENT, UNDERSTANDS IT, AND IS BOUND BY ITS TERMS.

9. TO OBTAIN WARRANTY SERVICE. The original purchaser must, at his own expense, bring or ship the equipment to an authorized location for service. Additionally, the original purchaser must pay all freight, shipping or transportation charges for the return of the equipment from Bob's Space Racers®, Inc. to the original purchaser. Telephone or write:

Bob's Space Racers®, Inc.
427 15th Street
Daytona Beach, Florida 32117
Telephone number 386-677-0761
FAX 386-677-0794

ADVANCED REPLACEMENT POLICY

After speaking with our Technical Department it may be necessary for Bob's Space Racers®, Inc. to ship an assembly item or part to repair your game. We will ship the item(s) according to your preference via United Parcel Service, Federal Express, US Postal Service, etceteras. Note: we will not ship anything to P.O. Boxes via the US Postal Service. You will be billed, per your account status, for the total cost of the shipment (which includes shipping charges).

Upon shipment of the new item(s) a Return Merchandise Authorization Number (RMA #) will be issued for you to use when returning the defective item(s) to Bob's Space Racers®, Inc., or you may use the order number. After the defective item(s) is received by Bob's Space Racers®, Inc. your account will be issued either a:

1. Warranty credit: if your game is under warranty. (See the Warranty Policy page.) Note: this credit does not include return shipping charges.

2. Credit for the item(s). Note: this credit does not include return shipping charges, nor does it include the repair charges for the item(s).

If the item(s) cannot be repaired to the point where it could be shipped to another customer as an Advanced Replacement item (i.e. cosmetic damage), we will ship your original item(s) back to you. You will be required to return the Advanced Replacement item(s) or pay for it. You will be responsible for all shipping charges, should you decide to not keep, and pay for, the Advanced Replacement item(s).

ADVANCED REPLACEMENT ITEM(S) SHIPPING RULES

When you request an Advanced Replacement item from us, we have a few rules for you to follow:

1. **DO NOT** try to repair the defective item(s) on your own; **DO NOT** disassemble the defective item(s) prior to returning it to Bob's Space Racers®, Inc. – this could cause further damage and the possibility of you not receiving any credit at all on the item(s). There are not any user serviceable parts inside, and our vendors may void their warranty on disassembled parts. (Please review the last paragraph of the Advanced Replacement Policy).
2. Wait for the Advanced Replacement item(s) to arrive prior to returning the defective item(s).
3. When the new item(s) arrive, verify that it is the correct part. If it is not, please note what the differences are and contact Bob's Space Racers®, Inc.
4. Return the defective item(s) in the exact same packaging the Advanced Replacement item(s) came in. This insures no more damage will be done to the item(s) during the return shipping.

Thank you for your cooperation.

OWNER’S MANUAL

CONGRATULATIONS!

Congratulations on your purchase of a Bob's Space Racers® Game! Bob's Space Racers® continues to lead the amusement industry in the manufacturing and the operation of amusement games and has operated these games at several of North America's largest expositions for the last 30 plus years. Some of these expositions include: The Canadian National Exhibition, Toronto, Ontario, Canada; The Calgary Stampede, Calgary, Alberta, Canada; The Minnesota State Fair, St. Paul, Minnesota, USA; The Ohio State Fair, Columbus, Ohio, USA; The Big E, Springfield, Massachusetts, USA; The South Carolina State Fair, Columbia, South Carolina, USA; and, The Dade County Youth Fair, Miami, Florida, USA. This experience has allowed us the opportunity to field test each piece of equipment that we manufacture, and helps us to stay in tune with the amusement industry with its ever-changing trends.

What you are about to read may appear a little overwhelming at first, but it will help you reach the high profits you seek. Keep in mind we are offering this only as a guide for you to get started. These tips have proved time and again to work successfully in our own operations over the last thirty years.

MANUAL INTRODUCTION

This owner's manual is divided into several sections beginning with Operator's Guide, Introduction and Set-up, and so on. We have provided direction on every aspect of the game from running and maintaining it to pertinent technical information and troubleshooting problems. We, also, cover coin mechanisms, ticket dispensing, and prize redemption in the appendix section.

Each section has troubleshooting guides that contain enough information so that the game can be repaired with little difficulty. If this information is not sufficient, a call to Bob's Space Racers® will provide additional assistance. Between the manual and the personal assistance, downtime of your game will be minimal. (When you call, we assume that you have read this manual and have tried the suggested repairs).

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INTRODUCTION

INTRODUCTION

The most important thing to remember about the job you are about to begin is to be yourself! Your personality is what keeps you from sounding like a computer. As you are taught the basic procedures, you'll also learn how to adapt them to your own style. Working in the game can be a lot of fun, once you have mastered the proper technique.

ALWAYS REMEMBER THAT THE CUSTOMER IS THE MOST IMPORTANT PART OF THIS BUSINESS!

SMILE! A smile will do more for your business than anything else. It shows the customer that you are happy and they will have some fun.

LOOK PEOPLE IN THE EYE! Making eye contact with people lets them know that you are talking to them, and not just 'rambling on'. A simple, "Hi! How are you?" or, "Hi there! Are y'all having fun today?" will let them know you are talking to them. Follow up with, "Come over here and I'll show you how to play this game!"

USE YOUR FREE HAND to motion the people you're addressing to come over to your game.

ONCE THE CUSTOMER IS AT THE COUNTER**, just be polite and explain the game in a simple manner.**

WHEN THE GAME IS OVER**, be certain to:**

1. Acknowledge the winner.
2. Encourage the non-winners to play again, before they start to walk away.
3. Encourage the winner to play again and show him/her the next prize they could trade-up for if they won again.

If you keep these basic procedures in mind, everything else should come together.

GETTING STARTED

No matter what part of the world you may be operating your equipment in, customers are the most important part of making your operation successful. By keeping the customer happy, you will enjoy increased profits. When a customer leaves your game one of two things will have occurred: either you have a satisfied customer who will play that great new game the next time he goes by and will tell his/her friends about it; or, he/she will leave vowing that is the last time that game will ever get his/her money! Of course we all agree that a happy customer is what success is all about.

It is the operator's job to ensure that the customer can easily understand the game and what the prizes are for each win level. This task can only be achieved by the person who will actually be in the game working with the people. There are important features to look for when hiring a game attendant. Always look for a friendly, outgoing personality. Someone who is honest, dependable, and is used to working with money. The attendant is the one who will be dealing with the customers on a one-on-one and day-to-day basis.

Although working with the public can be extremely trying at times, by insuring proper breaks for your employees you will eliminate most problems. It is recommended to give the attendant a 30 to 60 minute break every two (2) hours, this way you will always have a fast, outgoing, upbeat attendant running your game. If the attendant is polite and friendly, the public will respond the same way.

WHY BREAKS ARE SO IMPORTANT

Operating a game is physically and mentally demanding. We found it is best to have two (2) attendants for each game, or, three (3) attendants to rotate between two (2) games. This will keep them always at their peak performance and alertness levels. We also suggest you have a part-time employee who can work during the busy/peak times. This person is commonly referred to as the 'second' attendant. It's also important for higher profits. Having two (2) people collecting money can save time and allows the game operation to run much more quickly and efficiently.

GETTING READY FOR EACH DAY

We suggest you begin each day by checking the power. This procedure is done to insure that proper power is being supplied to the game to avoid electrical damage, and/or malfunctions. To check the power coming into your trailer look for the power checker with a toggle switch on it. This is mounted near the breaker panel. Toggle the switch to the left to test one leg of the power, then right for the other leg of the power. The needle should read approximately 120VAC on each leg.

If either leg does not read 120VAC you will need to locate the supply generator or the city power connections and check the voltage source there. This needs to be done every day because your trailer may have been hooked to a different circuit by a show electrician, from one day to the next, without your knowledge.

If both legs do read 120VAC you can start the game up and check your sound level for both the microphone and the sound track. We find it helpful to label the knobs on the amp so the operator/attendant can easily distinguish between each knob.

It is important to be aware of your merchandise inventory throughout the day, especially during peak times. This will ensure that your game doesn't run out of prizes.

GAME OPERATIONS

Okay, it's time to begin! As each customer passes by they need to by acknowledged with a simple greeting. Such as:

"Hello!"
"Hi, there!"

Followed by:

"**How are you?"**
"Have you seen this game?"
"Would you like to try it?"
"Are you ready to try this one?"
"Let me show you how to play!"

Remember, make eye contact with the person you are speaking to when you are trying to persuade them to come over to play the game.

Getting the customer to the playing counter is half the battle. Once they are at the counter, quickly give a brief explanation of how to play the game. Then try to get a few more players to begin the race. Note: It's not necessary to have a group of players to begin a skill type game (i.e. Sidewinder®, Roll-A-Ball®, Whac-A-Mole®, etc). Also, know which prize you will be giving out.

During the game quickly check that all players are playing the game properly, and that they are at their correct play stations. Also, note how many players you have. If possible, note the bystanders and point out any empty positions for them to join in and play. Use the announcement of winners to encourage others to play. Also, get at least one (1) player to pay for the next game before you give the winner his/her prize. For example:

Player at station #5 won and players at #1 and #2 were a very close second and third. You might say, "Hey! #1, you were right there that time! #2 – you should've had it! You better try again! This could be your lucky chance! How about another try?" Remember your winner, "Player #5, you were our lucky winner this time! Look at what you've won!" At this point you hand him/her the prize and continue by pointing to the next larger prize, "When you win again, you can trade this in for a larger prize!"

GAME OPERATIONS

We've found that by showing the winner the next prize they are easily tempted to play again. Always encourage a few more players; People are the key to attracting more people to the game.

However, there will be times when only a few customers will be in the playing area.

WHAT TO DO WHEN IT IS SLOW

How fast or slow the operator runs the game is referred to as the 'pace'. Try to get at least three (3) or four (4) players at all times. This is commonly referred to as 'grinding'. Simply pay more attention to the players you have already, take more time to explain the rules of the game, explain the prize levels – remember the more people you have at your game the more people will come to your game. If the operator works the crowd as suggested they will find that two (2) players can easily turn into three (3) or four (4), or many more players.

WHAT TO DO WHEN IT IS BUSY

At some point, while grinding, the operator will become 'steady'. This simply means that there are at least five (5) or more players at the game. When players are steady, the operator should pick up the pace. If the operator is really good he/she can try to entice several players to try the game. At the same time the operator should be trying to get at least ten or more players for each race – this would be considered busy.

It is important that the operator constantly try to get as many players as possible; remain very courteous; and, explain or answer game operation questions as simply and as clearly as possible. The operator also needs to speak clearly and loud enough for everyone to hear.

WHAT TO GIVE AWAY

We found in our operations that 28 to 30 cents on the dollar for give-away has proven the most profitable for us, and the customer. This works out to be 28 to 30 percent of the cost of play. This is achieved by dividing your cost of merchandise by your revenue for that race.

INSTALLATION AND SET-UP

DOG POUNDER™ GROUP GAME

DOG POUNDER™ GROUP GAME

OBJECT OF THE GAME

The Dog Pounder™ Game has different options and capabilities; but, the object of the game is the same. A player uses the hammer to hit the button in an attempt to get as many balls into the Dogs mouth filling the Dogs belly, as quickly as you can.. When a person gets the correct amount of balls in the Dogs belly they win the game. When the winning score, they are awarded prizes, or tickets.

GAME DESCRIPTION

For this game it takes a minimum of **TWO** players top begin a game. After coin–up, the air compressor's will come on and supply the reserve air tanks with enough air to make the balls jump into the Dogs mouth when they player hits the button in from of them. This will then throw balls into the Dogs mouth and be counted as they fill up his belly. When the correct winning score is reached, the game stops and no more balls will be counted. The winning score is displayed in front of the person winning the game and the bell will sound and flashing lights will illuminate.

ELECTRICAL REQUIREMENTS

Six Player Unit

Voltage(V)	HZ	Amps
100-125	60	8.5 (operating)
100-125	60	8.5 (operating)
100-125	60	8.5 (operating)

TRAILER SET-UP AND HOOK-UP

1. Locate trailer and drop Leveler Jacks. Level trailer front to back and right to left. Unwind lead line from hitch. Remove hitch and store out of the way.

2. Unlock awning doors. Raise the doors by use of key switch at the corner of the trailer.

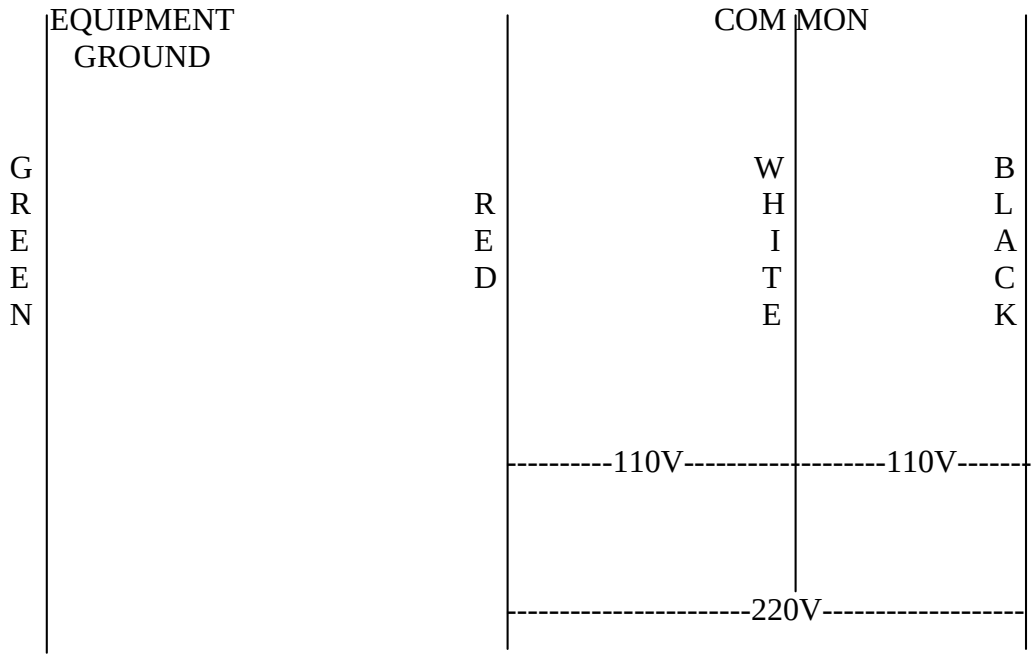
3. Put pins in awning prop rods; release pressure from Hydraulic Pump by turning the key the other direction. Remove key.

4. Hook-up White wire to the Neutral (Common). The Red and Black hook to opposite 110 volt phases. Green is Earth Ground. NOTE: Use power checker to check for 110 volts on both hot lines.

CAUTION! BE CERTAIN YOU HAVE THE CORRECT POWER SOURCE REQUIREMENTS FOR YOUR TRAILER: 220V, 60 CYCLE, SINGLE PHASE.

TRAILER LEAD LINE WIRING DIAGRAM

GREEN WIRE: Equipment Ground
BLACK WIRE: 110V AC
RED WIRE: 110V AC
WHITE WIRE: Common/Neutral



SETTING THE OPTION REGISTERS

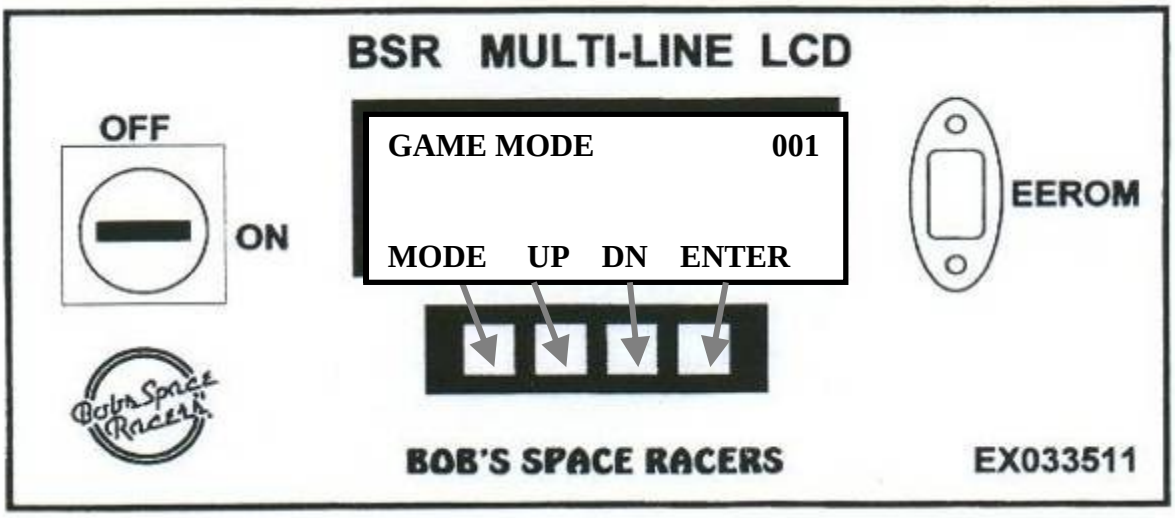
Enter Options by turning the keyed switch to "on" and waiting until the following message comes up:

"GAME MODE 001"

This means the system is ready to accept changes for the option registers. The MODE button sequences through each register setting displaying the value in that option register. The UP and DOWN buttons increase or decrease the value of the current register**. The change is NOT made permanent until the ENTER button is pressed.** The ENTER button also advances the screen to the next option register. **Pressing the MODE button before pressing ENTER leaves the register unchanged.**

NOTE: <u>The Registers CANNOT be changed in the middle of a race and if GAME TYPE is changed, the game MUST be powered down.</u>

MULTI-LINE LIQUID CRYSTAL DISPLAY BOX



DOG POUNDER™
PARK VERSION GDP2410 V1.0 B1.2
OPTION REGISTER SETTINGS

REG NAME	MIN	MAX	BSR	ACTUAL	DESCRIPTION
GAME MODE	0	1	1	_____	Game Mode,0=continuous
# PLAYERS	1	12	**	_____	Number of Players
BELL TIME	0	100	20	_____	Bell Time in 0.1 Seconds
WIN LITE TM	0	200	60	_____	Beacon Time in 0.0 Seconds
OPER BEACON	0	50	60	_____	Idle Time Between Games in 1 Sec
BALLY DELAY	0	20	28	_____	Unit to Unit Start Delay .1 Sec
BALL SCORE XX	1	100	1	_____	Score Multiplier
BALLS TO WIN	0	20	40	_____	Winning Score
HIT LEVEL	0	9	12	_____	Fixed Hit Level (Sweet Spot)
LO MONEY VAL	1	9	1	_____	Low Game Money Value
HI MONEY VAL	0	255	2	_____	High Game Money Value
AUTOSTART TM	0	2	2	_____	Autostart 0=Man, 1=One Button,
					2=Auto w/mess>2-Timed
UNIT ENABLE	0	1	0	_____	I Button On=1
SCORE DELAY	0	20	5	_____	Score Debounce
HOLD DELAY	0	100	30	_____	Debounce Delay
BEACON MODE	0	1	1	_____	Steady=0 Flash=1
Hit Debounce	1	255	100	_____	
**= Based on Number of Players for Game					

MAINTENANCE

GENERAL MAINTENANCE INFORMATION

TO CLEAN GAMES:

You may use soapy water on Formica, Plexi-glass, regular glass, Stainless Steel, and other metals without causing any damage. The following list of cleaners can only be used on the materials they are listed with. If a cleaner is used on a material that it is not listed with it will cause damage to that material and Bob's Space Racers® will not be held responsible for repair and/or replacement of that damaged material.

Cleaner	Material
Lacquer Thinner	Formica; regular glass
Mineral Spirits	Formica; Plexi-glass; Stainless Steel; other metals
Clean-On-The-Go Glass	Formica; regular glass; Stainless Steel; other metals
	Hard surface Cleaner™
De-Solve-It®	Formica; Plexi-glass
Brillianize™	Plexi-glass; regular glass
Windex®	Regular glass
3812S Enamel Reducer	Plexi-glass
Soft Scrub®; CLR®;	Stainless Steel other metals
Old English® Oil; Baby Oil	Formica; Stainless Steel; other metals

SCHEDULED MAINTENANCE

DOG POUNDER™ SCHEDULED MAINTENANCE

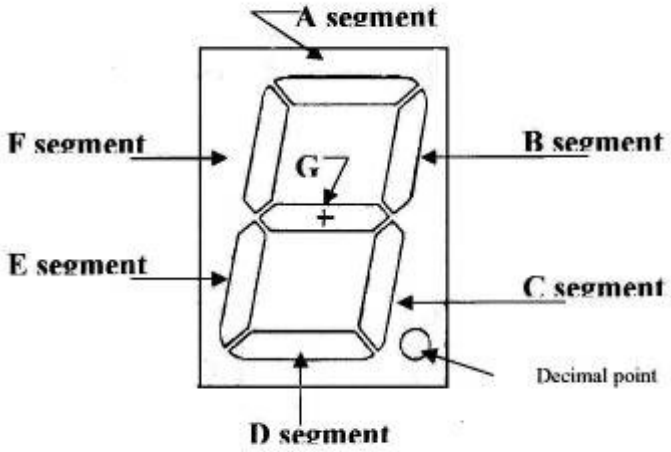
DAILY

1. Check oil (compressor = 30 weight non-detergent; lubricator = 10 weight non-detergent).
2. Check dryers; drain if necessary.
3. Visual inspection of game.
4. Check bulbs.
5. Clean all Formica.
6. Start all units; check for score on each figure head.
7. Check Win Lights (Beacons). Make sure each unit can win.

OPERATIONAL CHECKS

TEST MODE

1. Turn the key Switch ON
2. All 8's, plus decimal pints will appear in display windows.
3. Depress player push button down to the 1st position, the decimal points will flash on and off.
4. Depress player push button all the way down, the middle segment of the display will flash on and off.
5. Remove the Plexi glass front cover, and place hand down into the sensor field, and moving from left to right, the various segments of the display will turn off and on.



BALLY MODE

1. Turn Off the key switch
2. Depress the Bally button on the push button assembly
3. All ball hammocks will cycle for 60 seconds or until the STOP push button is depressed, and the dog belly's will remain open, allowing the balls to return to the ball hammock area.

DEMO MODE

1. Kick up player number 1, and hold down on player push button. Player 1 will cycle for 5 seconds, The player I.D. LED will also flash during the demo test.
2. Repeat this procedure for all players to verify that all positions work correctly.

WEEKLY

1. Drain air tank.
2. Clean cooling surfaces of compressor.
3. Remove counter tops; inspect micro switches or air switches and attached wires or hoses.
4. Remove countertops; check wires at TB strips.
6. Lemon oil all Formica.
7. Check hammers and adjust ropes (adjust hammer so it does not touch mirror).

MONTHLY

1. Operate safety valves on compressor or tank.
2. Replace or clean air filter.
3. Check belt tensions on compressor.
4. Check pulley clamp bolt and set screws.
5. Inspect air lines rubber and PVC.

SEMI-ANNUALLY (Twice Each Year)

1. Inspect valve assemblies.
2. Check pressure hoses from compressor to tank.
3. Check discharge line for carbon build-up.
4. Check contact points in pressure switch.
5. Lubricate electric motor.

TECHNICAL DATA

ELECTRONIC MODULE COMPONENT OVERVIEW

Bob's Space Racers® exclusive module electronics are as easy to change and repair as our old style relay systems. Modules pop out and pop in if problems arise, no boards or cables to change. Modules can be swapped between the unit board and the master board. One spare module can repair problems or update your game features. Note: Game Power must be **OFF** before adding or removing components.

SELF-DIAGNOSTICS

2400 Electronics are equipped with easy to use self-diagnostic LED's. These LED's are easily read to sort out most problems that can occur in operation. If problems occur our Technical Services can easily identify problems by noting which of these LED's are on or off.

NO ERROR FEATURES

Nothing is worse in a group game than having switches stick! This causes an unfair advantage for a player or disrupts the entire game. 2400 Electronics will not let the unit turn on or it will turn the unit off, when the game starts.

AUTOMATIC FEATURES

New for 2400 Electronics: 1) the 1-button Autostart; 2) the timed Autostart; and, 3) the manual start features.

1. **Manual Start**: Setting 0 – The operator pushes each start button for sound, game and bell manually at the time sequence desired.
2. **1-Button Autostart**: Setting 1 – This is your 1-button start feature for all sound, game and bell. This is for new and untrained operators. Hit 1 button and everything sequences in proper order to start the game, the same every time.
3. **Timed Autostart**: Set at time desired (This feature is for the serious operations.) "Time is Money" – Set your time desired and get ready - what you set is when we start.

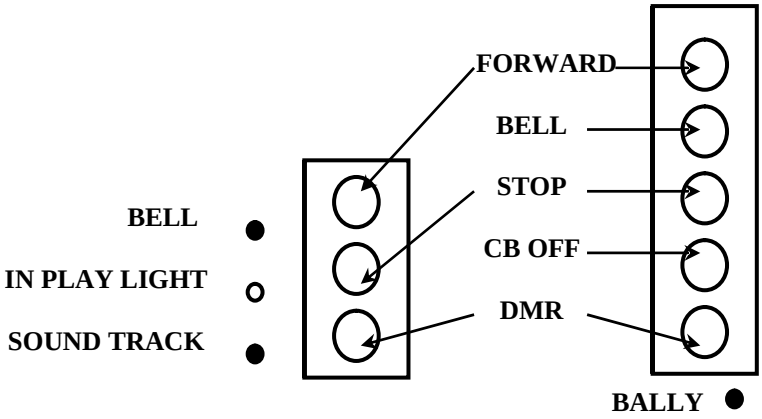
CB OFF/RESET

All 2400 Electronics have "CB Off" or "Reset" button. This button is used to reset the present game. If units were inadvertently turned on, press and hold the "CB Off" button. In about two seconds, the game will reset and be ready for play. This will sometimes cure your odd problems. If "CB Off" doesn't work, simply physically turn off game power at main breaker panel, wait 16 seconds, and turn the game power breaker back on. Just remember "Reset to Repair".

PUSH BUTTON STATIONS

1. **FORWARD**: Pressing the "Forward" button will start the game and turn on the forward I.D. light.
2. **CB OFF**: Pressing the "CB OFF" button will re-set the game and return the toy to the home position.
3. **STOP**: Pressing the "Stop" button will cause the game to pause.
4. **BELL PUSH BUTTON**: Pressing the "Bell" button will ring the bell.
5. **DMR PUSH BUTTON**: Pressing the "DMR" button will activate the Sound Unit.
6. **PRACTICE/DEMO BUTTON**: Some models have a practice button.
7. **BALLY BUTTON**: The bally sequence only lasts two minutes.

NOTE: These are some of the features that you may choose to have on your system, and do not necessarily reflect the total number of buttons or options available for the game.



MODULE ELECTRONIC SELF-DIAGNOSTICS

THE MASTER RELAY BOARD

"Green is Go - Red is Stop": Green LED's mean everything is connected in proper slots and in proper communication with other components. Red shows an error in your module or module location. Master 1 and units are interchangeable. Master 2 (Accounting Module) must be in the master 2 slot only. Player clock must be in player clock location only. Your spare Unit or Master 1 module is located in the spare slot. (See Board Layout).

WITH 2400 REV. G. ELECTRONICS MODULES

Green LED's mean everything is connected in their proper slots. A blinking red LED means the module is plugged into a wrong location. If the module flashes at a constant rate it means it belongs in either a master or unit location (they don't care which) and it's in the wrong location. If a module flashes twice, and goes out for a period of time, and flashes twice again, that means it belongs in the master 2 position of the master relay board. If the module flashes three times on the red LED and goes out for a period of time, then flashes three times again, that indicates it belongs in the number 3 position or the player clock socket of the Master relay board.

COMPUTER CONTROLLED GAME OPTIONS

In all 2400 Electronics ALL game features and controls can be set and changed using the keyed BSR MULTI-LINE LCD display panel. The option registers settings are based on years of testing and operating experience and preset by Bob's Space Racers® technicians. These settings can be changed by the end user depending on your operational needs. (See Option Register Setting Instructions beginning on the next page.) If you have any questions about these settings please contact our Technical Services department.

SIMPLE SOLUTIONS

Look for the simple things first, 90% of problems that occur with BSR equipment are simple things that are overlooked.

- Loose wires
- Bad Connections
- Loose modules or relays
- Something has been changed around by someone else's action

Example: someone plugs a wire connector into a wrong plug or someone disconnects something.

ELECTRONIC RESET PROCEDURES

There are 2 ways to reset your game. One is "CB OFF" button and 2nd is game power breaker.

- First try the "CB OFF" button located at each end of the game where start and stop push buttons are.
- Second turn the game power breaker off at the power panel, wait 15 seconds and turn breaker back on. Something to remember - 2400 electronic is a computer, if it gets "lost" it must be reset to start over properly.

ACTIVATED SWITCH

Hung or stuck switches can cause an unfair and revenue losing problem. To cure this, our 2400 Electronics senses this problem before it is too late. If one of the symptoms arise where as the foot-switch was the problem, the unit simply will not turn on. If you have a footswitch that lights up the I.D. light when turned on, and goes out when footswitch is released, then you must fix the stuck switch before this unit will turn on**.**

FUSE PROTECTION

Your game has fuses located at- and for the following:

Power supply/bridge rectifier protection - located beside power supplies in power supply box (See Power Supply Layout.) The ID light beside the fuse post represents a fuse in proper working order when lit.

Relay board fuses - mounted on Master Relay and Unit Relay Boards.
Surge protectors - mounted on breaker panels.

There are numerous fuses located throughout each game. Please be familiar with the locations and purpose of each of the fuses, and check them first when a problem arises**.**

INTERMITTENT AND ERRATIC PROBLEMS

If the game is demonstrating erratic behavior that doesn't effect multiple units it's best to power down the game then power the game back up. If the problem doesn't go away, recall the symptoms or behaviors and call Bob's Space Racers® Tech Service for help in repairing the problem.

Intermittent problems are the hardest to find and cure. If you have an intermittent problem please keep details on the problem, symptoms and details on when the problem occurs. Note how often it occurs. Contact Bob's Space Racers® Tech Services with the problem details.

MODULE CHANGES AND UPDATES

When you receive an updated or replacement module it can go into one of several sockets on your Master Relay Board. If the module does not have a label on it, you can put it in any of the positions other than "Master 2" or "Player Clock". These specific sockets are labeled on the master relay board. The master relay board is mounted to the far left side of your control electronics box. The master relay board has four (4) sockets, labeled from left to right, "Master 1", "Master 2", "Player Clock", and "Spare".

All of the modules have the same features (other than player clock and master 2). If you receive a player clock or master 2 module they will be labeled as such. If a module is received it is labeled "Master 1" that means it has a program update for the game. The master 1 socket has the ability to update the program to the rest of the game.

In order to insert any of the modules you must make certain your game electronics is OFF. You will notice that the three lights on the edge of the module are out completely. At that point insert the module into the correct position, removing the old module – if one is there. The module should be inserted so the LED's (small yellow, red and green lights) are toward the bottom. It should plug securely into place. That module should be at the same height as the other modules in place and not at any angle. Now you can apply game power – turn on the circuit breaker or plug it into the wall. All of the modules should light up, at least the green lights.

When a master 2 module (which keeps track of what time it is) is inserted into a game; the time must be set for your time zone – go to the Multi-Line LC Display Box with the accounting features. Hold down the two middle buttons (the "UP" and "DOWN") on the display. (See ACCOUNTING SYSTEM in the APPENDIX for more instructions and a diagram on this LCD box.) Then turn the key to the "ON" position, it should display "YEAR =" and a value. After setting the value you want by using the "UP" and "DOWN" buttons PRESS the "ENTER" key.

The four buttons have the following features; the left-hand button is "MODE" as it says in the bottom of the display. When you press this button it advances to the next option without modifying any settings. The next two buttons are "UP" and "DOWN"; to change the value of a given setting. When you change the value in the display the setting does not take until you press the "ENTER" button which is the far right button. If you press the "MODE" button, instead of "ENTER" you advance to the next location without changing the option; even though you saw the value change. You must press "ENTER" for it to accept the change. The year value is a two digit number from 00 to 99 (this program takes into account the year 2000) and is accurate to the year 2090.

Now, set the month; which is from 01 for January to 12 for December. Press the "ENTER" button after that value is set correctly. Next set the time; there is no AM or PM value, we use the 24 hour format. If you want 8:00PM the setting would be 8 + 12 or 20 for the value then press "ENTER". The next setting is for minute; set the correct number of minutes and press

"ENTER". Turn the key back to the "OFF", and the Multi-Line LCD Box will return to it's normal accounting function.

If you receive an updated Player Clock module there are no settings for it, when plugged in it will do it's job.

If you receive a module and it has no label and it is a replacement you will need to do a systems download in order to get your game's current program into the replacement module. If you have received an update Master 1, or program, the module belongs in the Master 1 location and a download needs to take place in order for the rest of the game to have all the updates.

To download the programs to the rest of the game, with the game power on (locate the game MULTI-LINE LCD unit) turn the key to the "on" position. The Multi-Line LC Display should read "GAME TYPE " and a value. (Refer to OPTION REGISTER SETTING INSTRUCTIONS for complete instructions and diagram) Press the left "MODE" button, this will cause the LCD screen to advance through the options. With the left button still depressed, press the far right button ("ENTER") for at least one (1) second. After two (2) seconds the display will say "DOWNLOADING UNIT". Now you can let off of the buttons and turn the key to the "off" position, and the new/replacement module will download the program to the rest of the modules ensuring no conflicts between any of them.

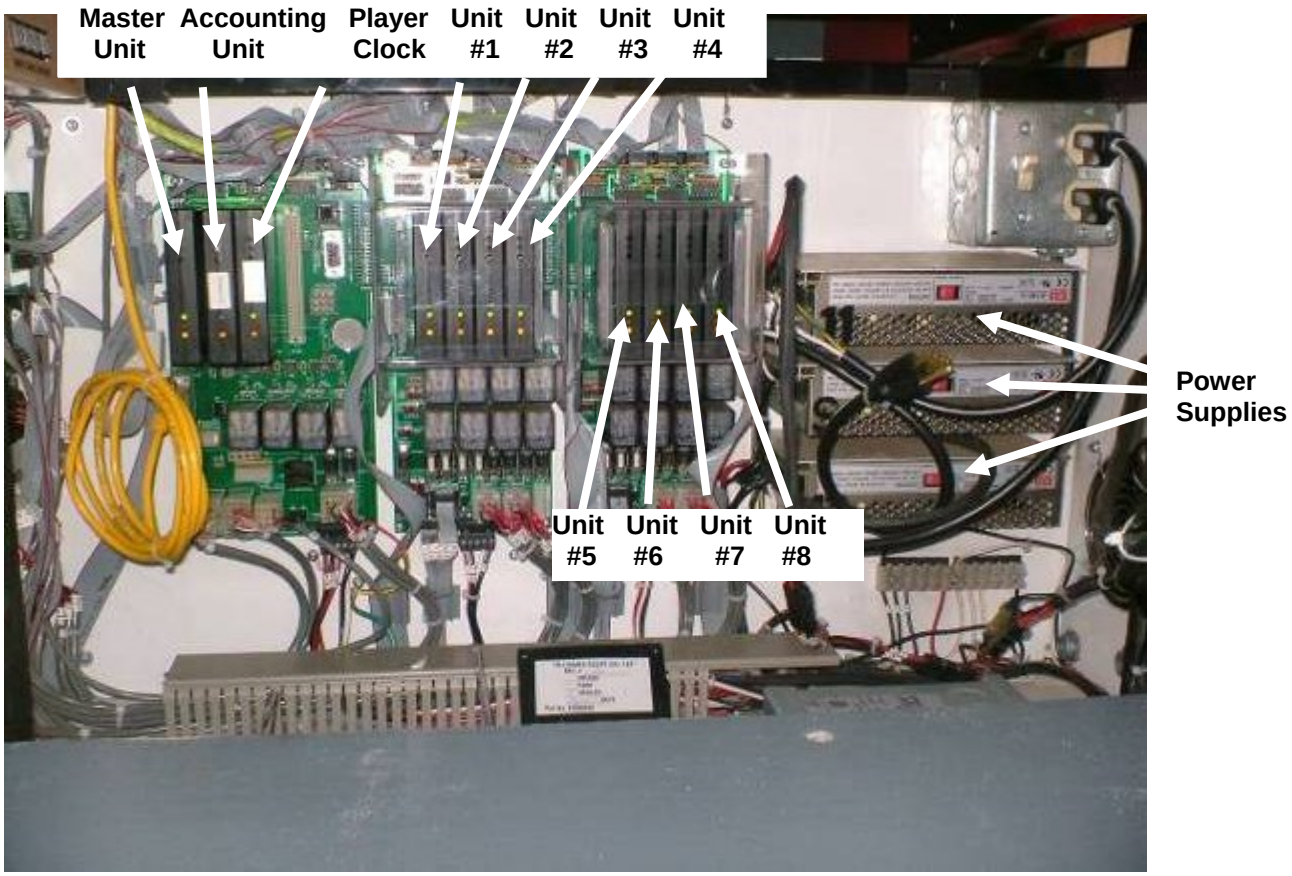
MODULE CHANGES AND UPDATES

During the time it takes to download you will see yellow and red lights on the modules begin to flash or turn dim, this is informing you that the programs are actually being downloaded into the modules. When that is complete the red light will go out and the yellow and green light will come on bright.

If you insert a module, and after power up, you see a red light is flashing, this indicates a module is plugged into the wrong location. If the module flashes at a constant rate it means it belongs in either a master or unit location (they don't care which) and it's in the wrong location. If a module flashes twice and goes out for a period of time and flashes twice again, that means it belongs in the master 2 position of the master relay board. If the module flashes three times on the red LED and goes out for a period of time, then flashes three times again, that indicates it belongs in the number 3 position or the player clock socket of the master relay board.

If you have any problems during the downloading process, or if the game is not working correctly after you have completed the download, please call Bob's Space Racers® for further technical support help. Try to identify which lights are "ON" and on which module they are located. Generally speaking, you should see that most of the modules have the same lights on, in the same pattern. There may be one or two that are different. Note which locations that are different, to aid in troubleshooting with a technician**.**

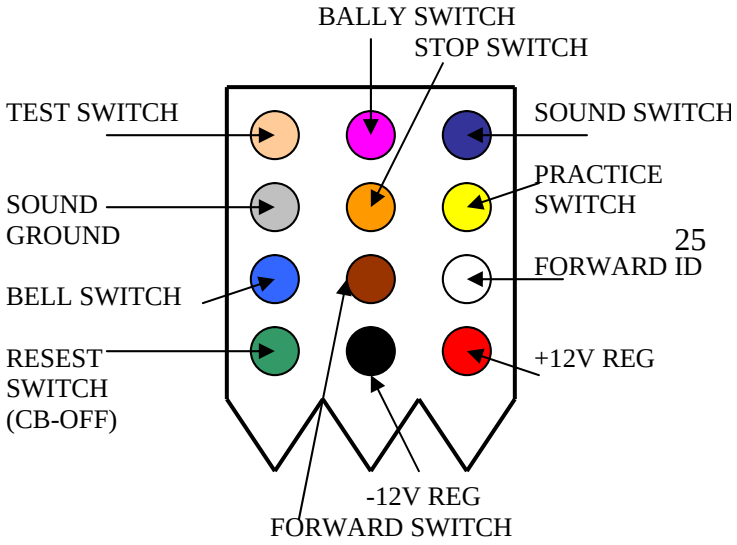
CONTROL BOX

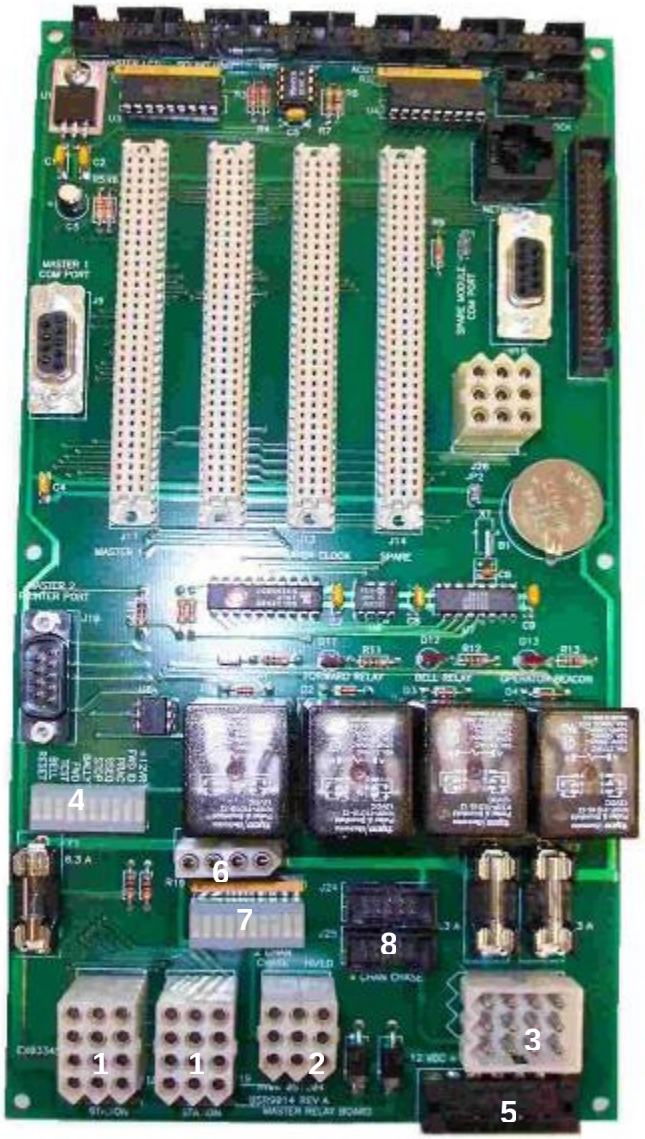

Master Unit
Accounting Unit
Player Clock
Unit #1
Unit #2
Unit #3
Unit #4
Unit #5
Unit #6
Unit #7
Unit #8
Power Supplies

CONTROL BOX CONNECTIONS

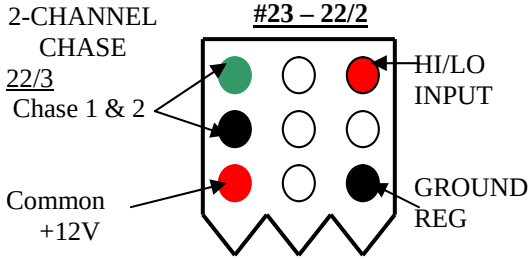
MASTER MODULE RELAY BOARD

1
FEMALE PLUG – MALE PINS
MASTER (J18) & SATELLITE (J19)
PUSHBUTTON STATIONS

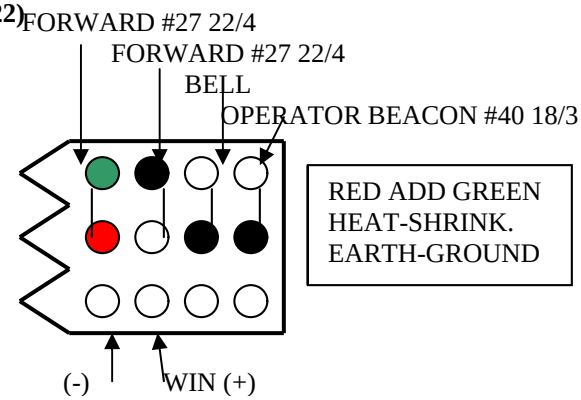




2
MALE PLUG – FEMALE PINS
HI/LO SWITCH (J20)

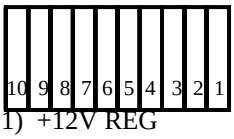


3
FEMALE PLUG – MALE PINS
(J22)



RED ADD GREEN HEAT-SHRINK. EARTH-GROUND

LED SWITCH ARRAY BLOCK (D5)



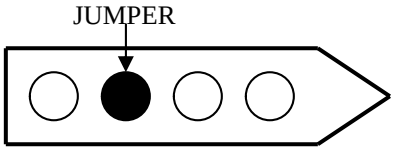
1) +12V REG
2) FORWARD ID
3) PRACTICE
4) SSEQ
5) STOP
6) BALLY
7) FORWARD
8) TEST
9) BELL
10) RESET

See next page for 5-8.

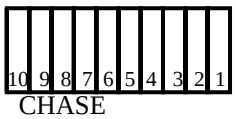
MASTER MODULE RELAY BOARD (page 2)

5
The connector at J23 is diagrammed on page 3.

6
FEMALE PLUG – MALE PINS (J8)



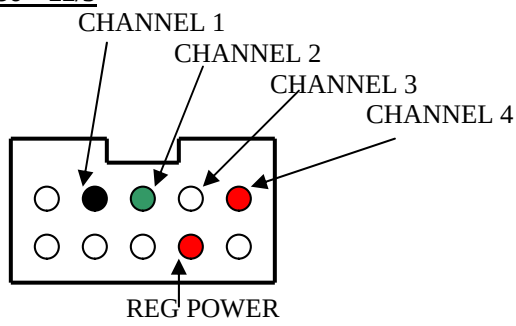
7
LED PIN-OUT (D6)

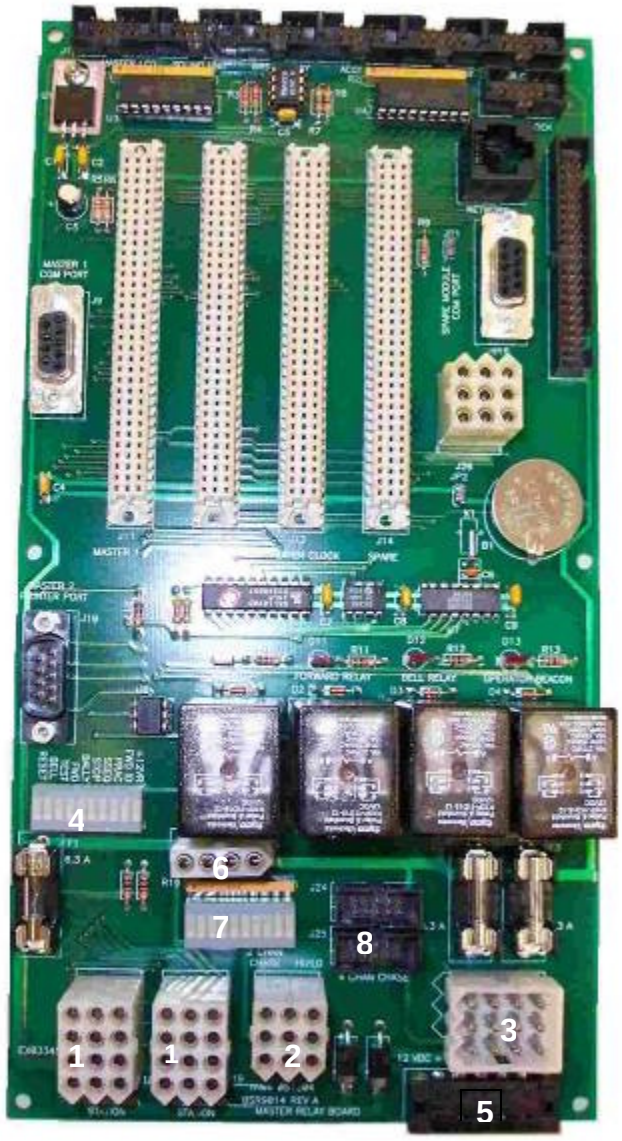


1-4) CHASE
5-7) X-MAS TREE
8) HI/LO
9-10) 2-CHANNEL CHASE

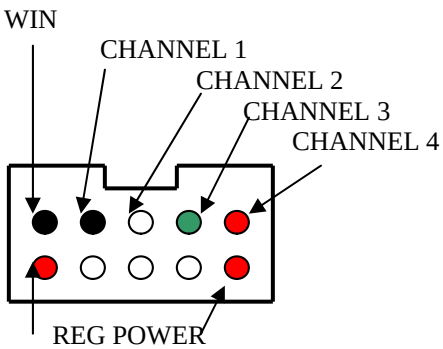
8
4-CHANNEL CHASE (J24 & J25)

#36 – 22/5



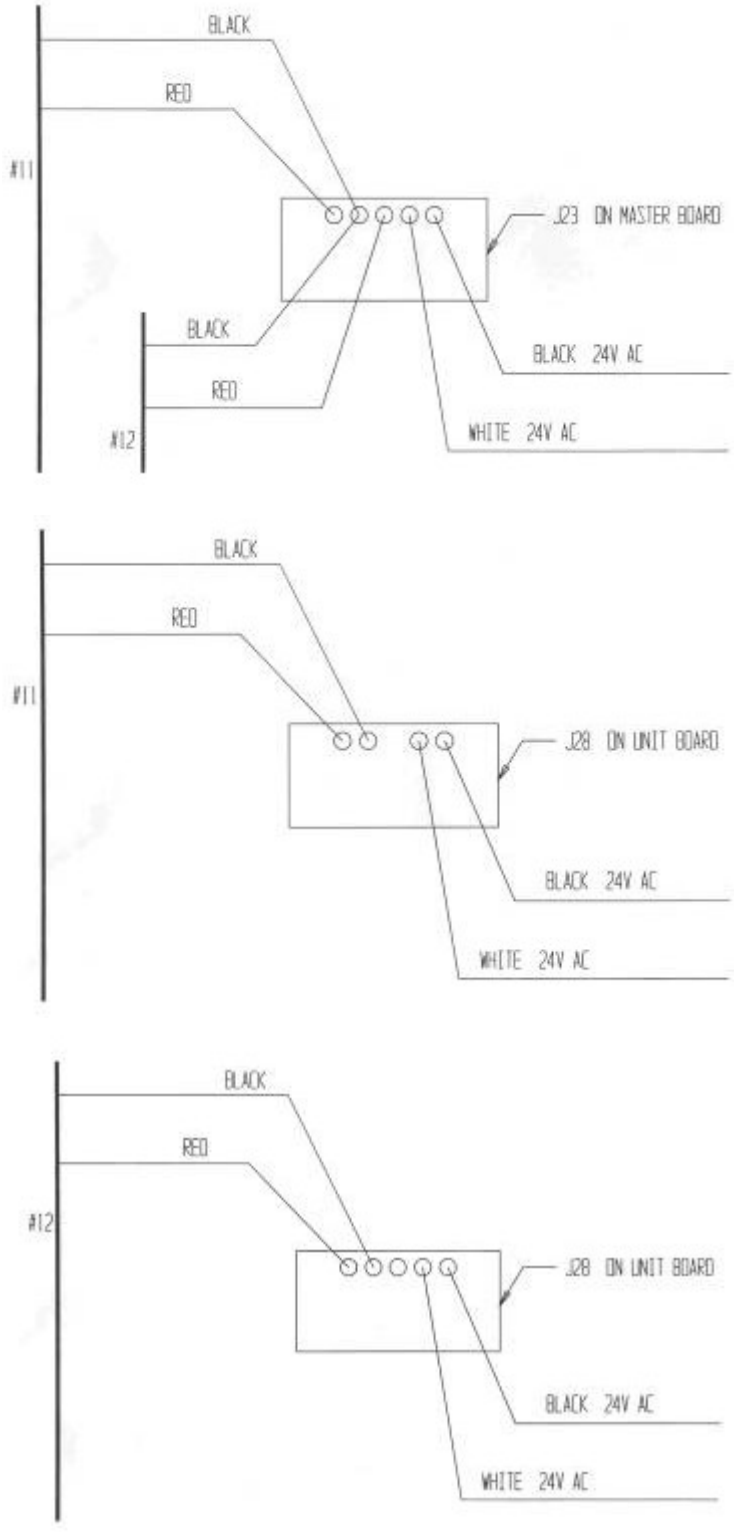


#36 – 22/5 & #15 22/2
GLOBE FLASHER & WIN LINE



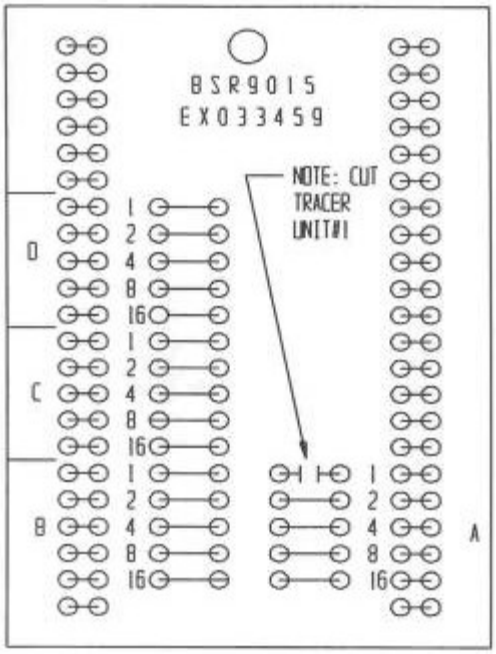
MASTER MODULE RELAY BOARD (page 3)

5 (J23) DIAGRAMS



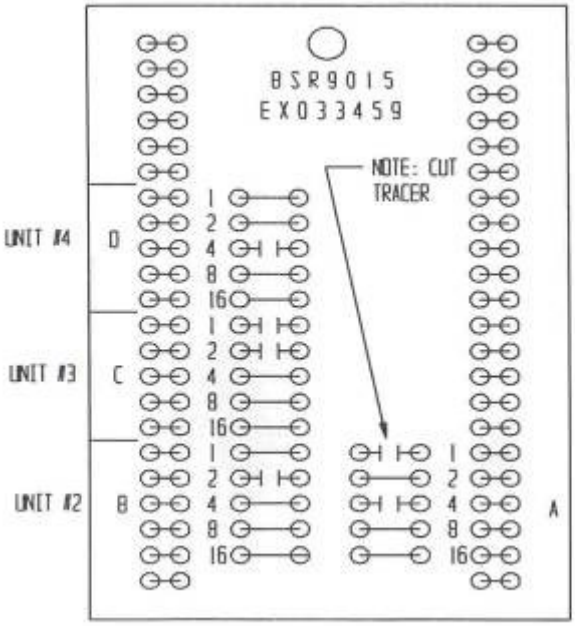
UNIT RELAY BOARD
(POPULATED)

UNIT IDENTIFIER



MASTER

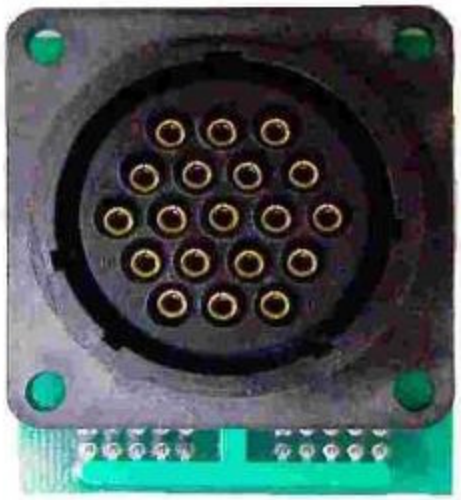
SYSTEM LINK/ADDRESS



UNIT BOARD #1

SYSTEM LINK /ADDRESS

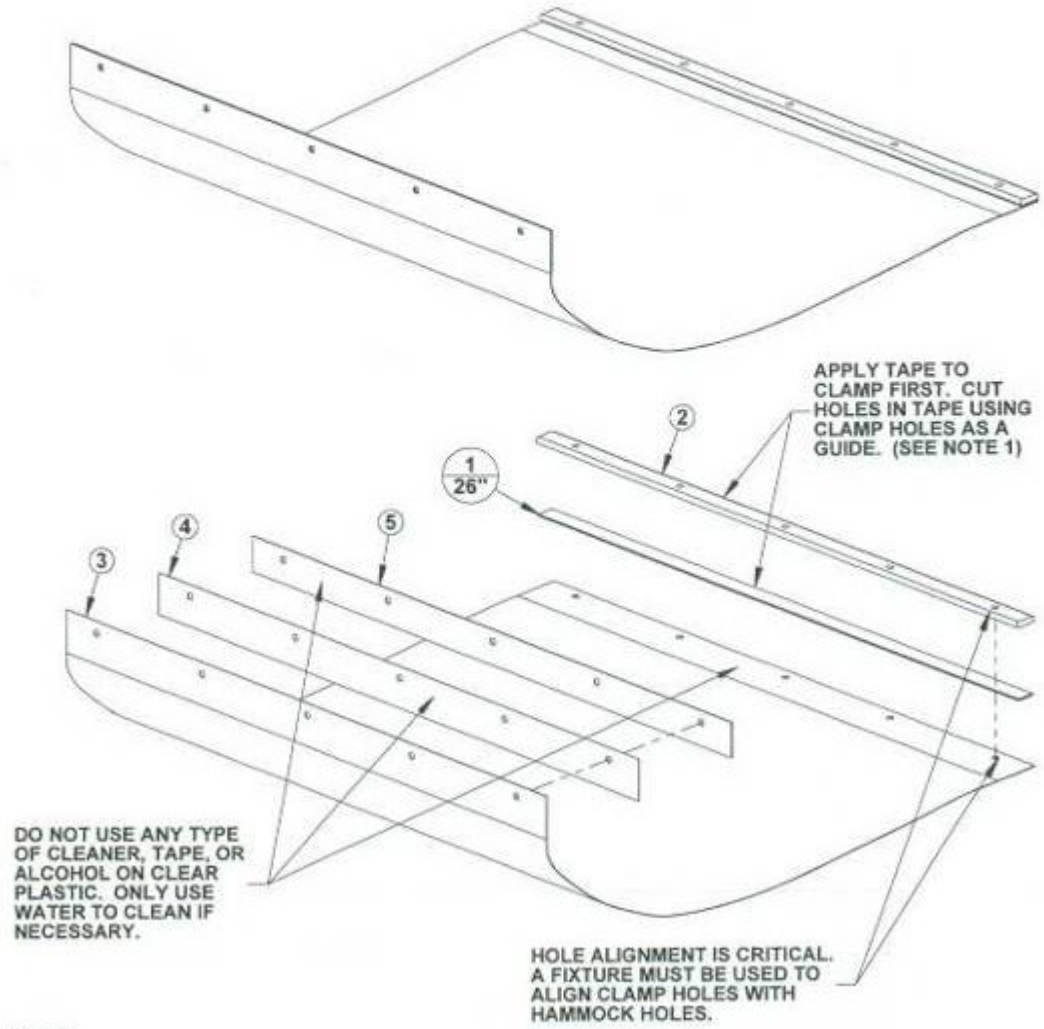
TRANSITION BOARD



CABINET DRAWINGS , HARDWARE, PARTS LISTS

HAMMOCK BALL THROW PLASTIC ASSEMBLY

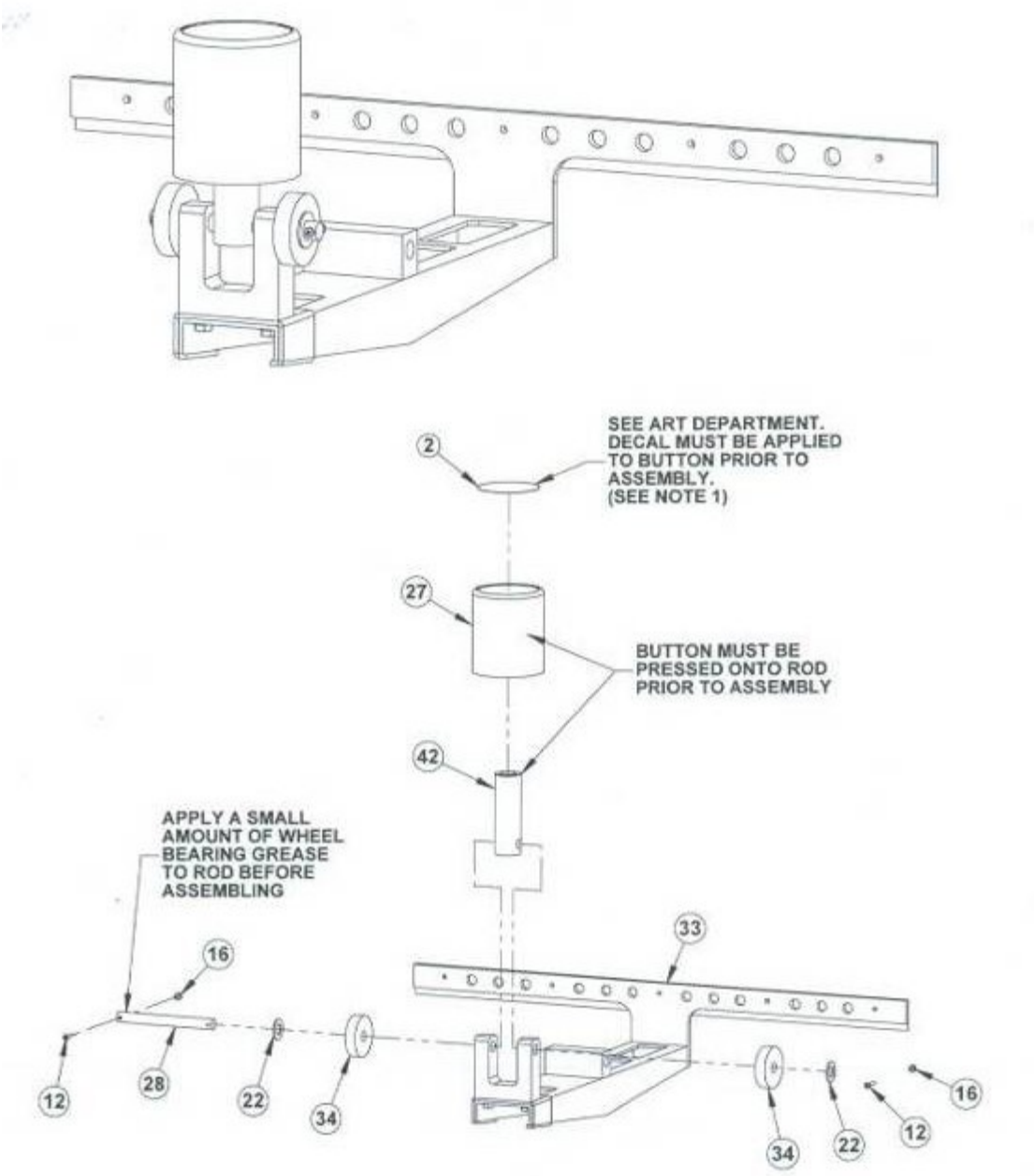
ITEM	PART #	DESCRIPTION	U/M	QTY
1	C0005024	TAPE 3/4" X 1/16" DOUBLE COATED FOAM BLK	INCH	26
2	CX800411	CLAMP BALL HAMMOCK REAR	EA	1
3	MX800405	HAMMOCK BALL THROW	EA	1
4	MX800411	HAMMOCK BALL THROW STIFFENER LONG	EA	1
5	MX800412	HAMMOCK BALL THROW STIFFENER SHORT	EA	1


APPLY TAPE TO CLAMP FIRST. CUT HOLES IN TAPE USING CLAMP HOLES AS A GUIDE. (SEE NOTE 1)
2
1
26"
3
4
5
DO NOT USE ANY TYPE OF CLEANER, TAPE, OR ALCOHOL ON CLEAR PLASTIC. ONLY USE WATER TO CLEAN IF NECESSARY.
HOLE ALIGNMENT IS CRITICAL. A FIXTURE MUST BE USED TO ALIGN CLAMP HOLES WITH HAMMOCK HOLES.

NOTES:

1 - BEFORE APPLYING DECALS, TAPE (OF ANY KIND), OR VELCRO, SURFACES MUST BE CLEANED WITH ALCOHOL UNLESS OTHERWISE NOTED. WAIT FOR SURFACE/S TO DRY BEFORE CONTINUING.

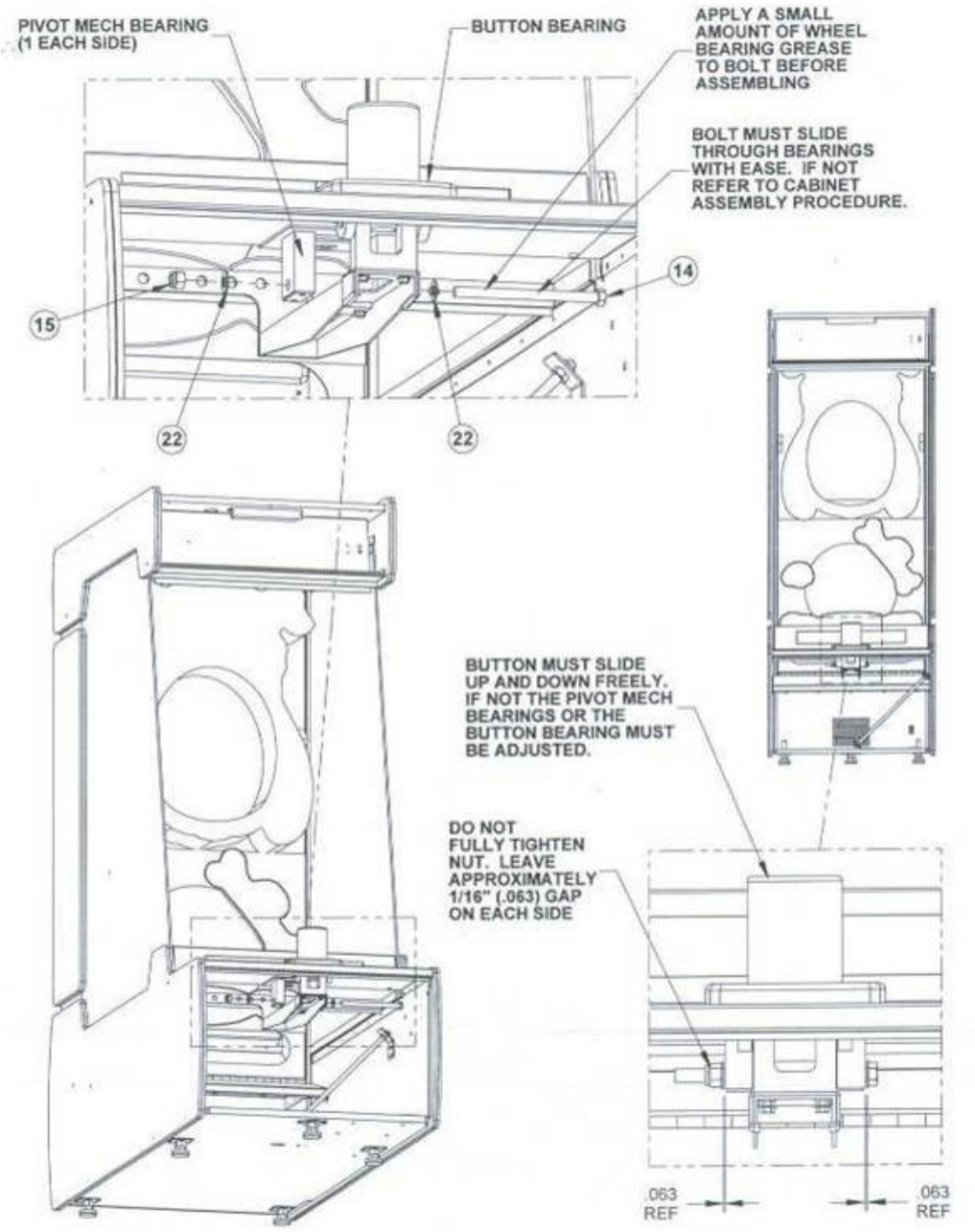
HAMMOCK HARDWARE



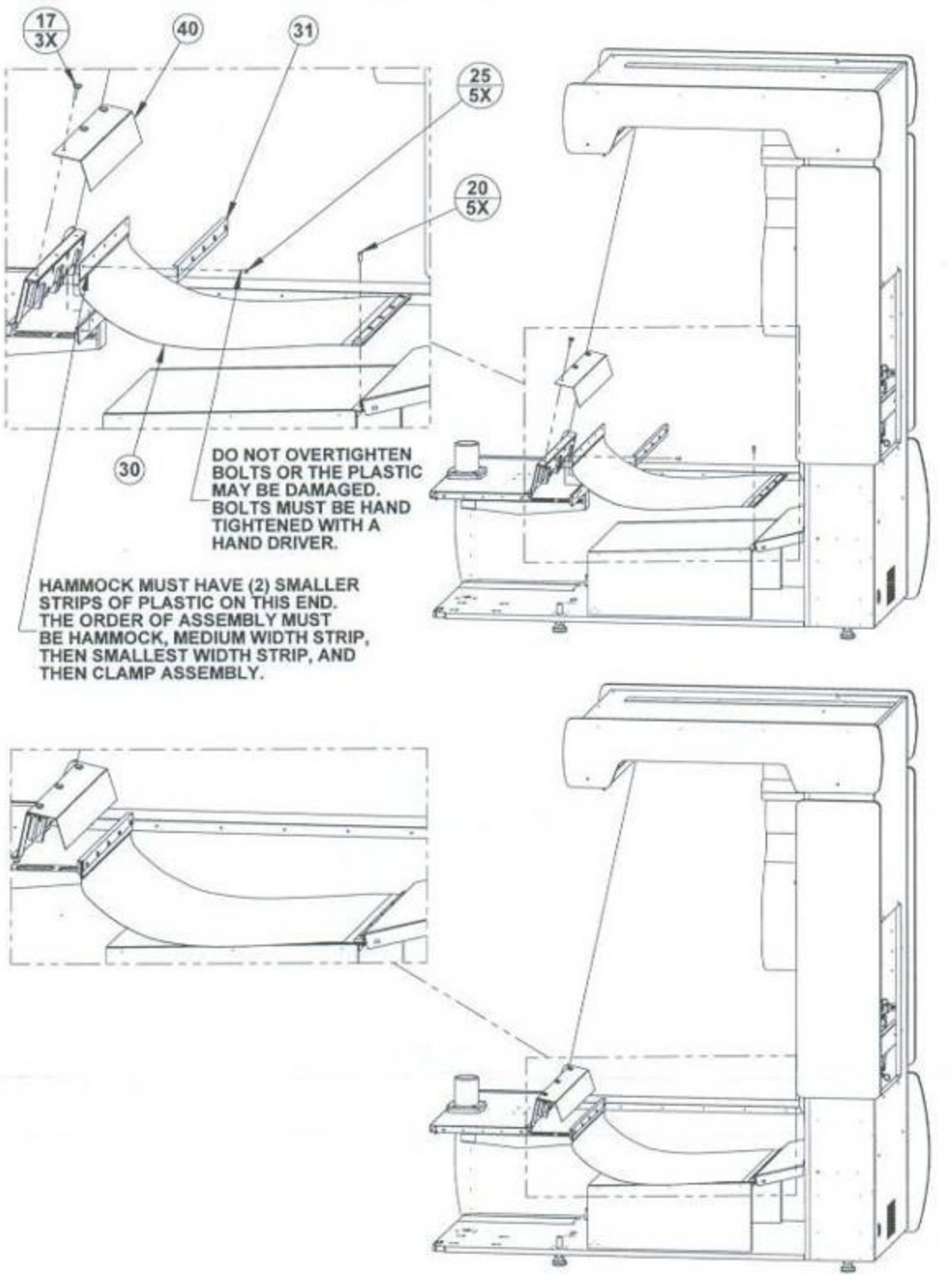
NOTES:

1 - BEFORE APPLYING DECALS, TAPE (OF ANY KIND), OR VELCRO, SURFACES MUST BE CLEANED WITH ALCOHOL UNLESS OTHERWISE NOTED. WAIT FOR SURFACE/S TO DRY BEFORE CONTINUING.

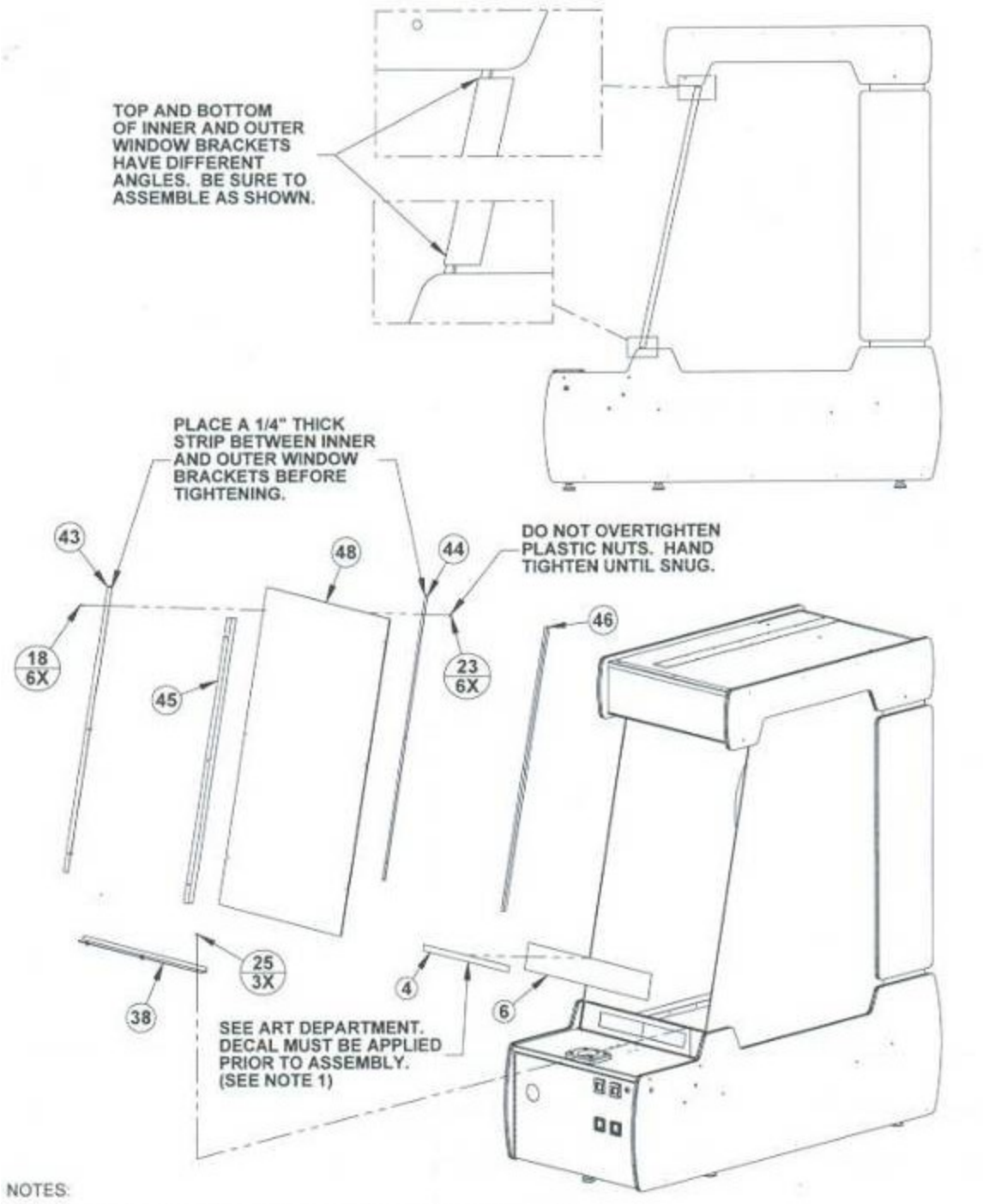
HAMMOCK MOUTING


PIVOT MECH BEARING
(1 EACH SIDE)
BUTTON BEARING
APPLY A SMALL AMOUNT OF WHEEL BEARING GREASE TO BOLT BEFORE ASSEMBLING
BOLT MUST SLIDE THROUGH BEARINGS WITH EASE. IF NOT REFER TO CABINET ASSEMBLY PROCEDURE.
14
15
22
22
BUTTON MUST SLIDE UP AND DOWN FREELY. IF NOT THE PIVOT MECH BEARINGS OR THE BUTTON BEARING MUST BE ADJUSTED.
DO NOT FULLY TIGHTEN NUT. LEAVE APPROXIMATELY 1/16" (.063) GAP ON EACH SIDE
.063 REF
.063 REF

HAMMOCK INSTALLATION


17
3X
40
31
25
5X
20
5X
30
DO NOT OVERTIGHTEN BOLTS OR THE PLASTIC MAY BE DAMAGED. BOLTS MUST BE HAND TIGHTENED WITH A HAND DRIVER.
HAMMOCK MUST HAVE (2) SMALLER STRIPS OF PLASTIC ON THIS END. THE ORDER OF ASSEMBLY MUST BE HAMMOCK, MEDIUM WIDTH STRIP, THEN SMALLEST WIDTH STRIP, AND THEN CLAMP ASSEMBLY.

PLEXI GLASS MOUNTING


TOP AND BOTTOM OF INNER AND OUTER WINDOW BRACKETS HAVE DIFFERENT ANGLES. BE SURE TO ASSEMBLE AS SHOWN.
PLACE A 1/4" THICK STRIP BETWEEN INNER AND OUTER WINDOW BRACKETS BEFORE TIGHTENING.
DO NOT OVERTIGHTEN PLASTIC NUTS. HAND TIGHTEN UNTIL SNUG.
43
48
44
46
18 6X
23 6X
45
25 3X
38
4
6
SEE ART DEPARTMENT. DECAL MUST BE APPLIED PRIOR TO ASSEMBLY. (SEE NOTE 1)

NOTES:

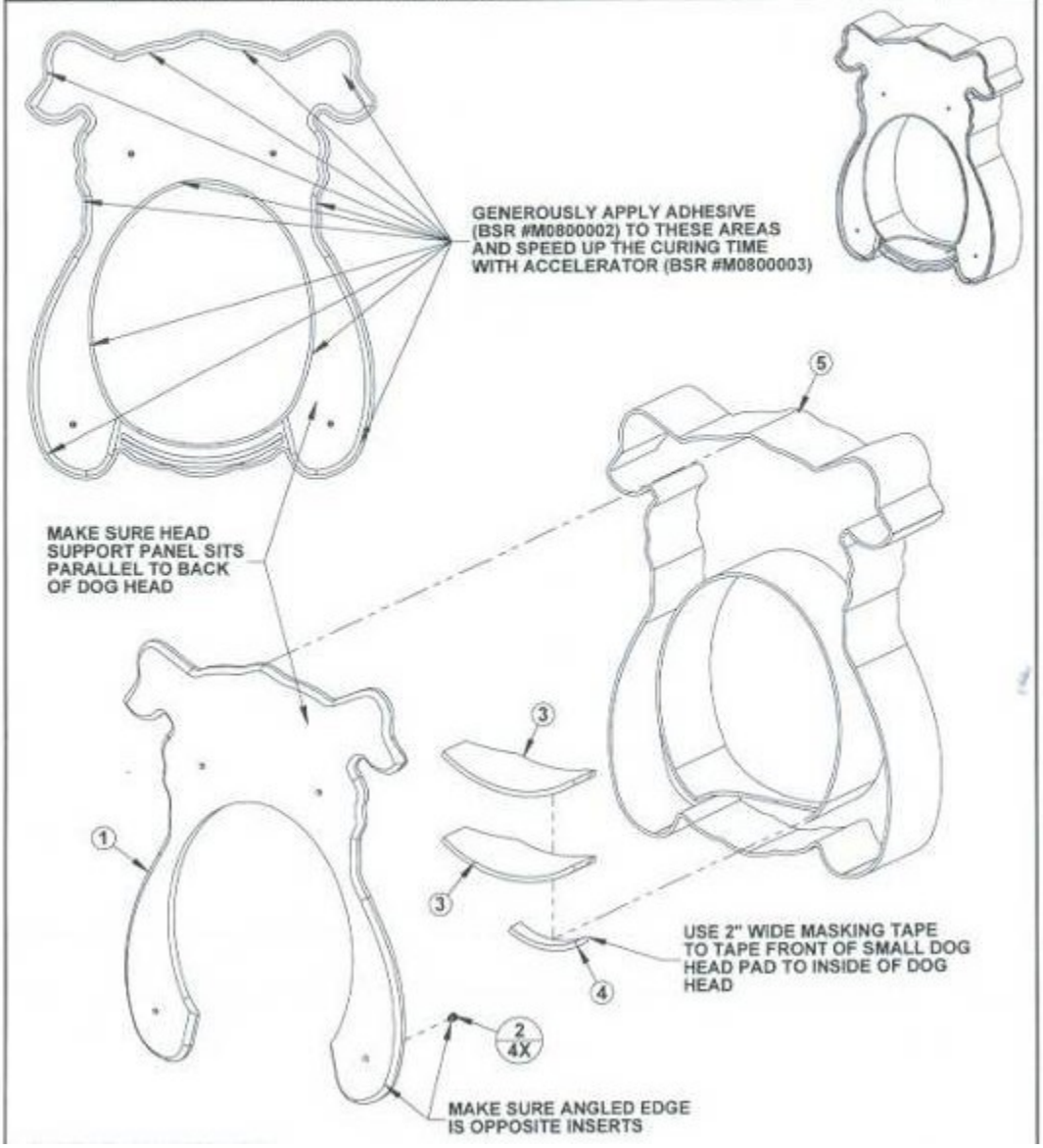
1 - BEFORE APPLYING DECALS, TAPE (OF ANY KIND), OR VELCRO, SURFACES MUST BE CLEANED WITH ALCOHOL UNLESS OTHERWISE NOTED. WAIT FOR SURFACE/S TO DRY BEFORE CONTINUING.

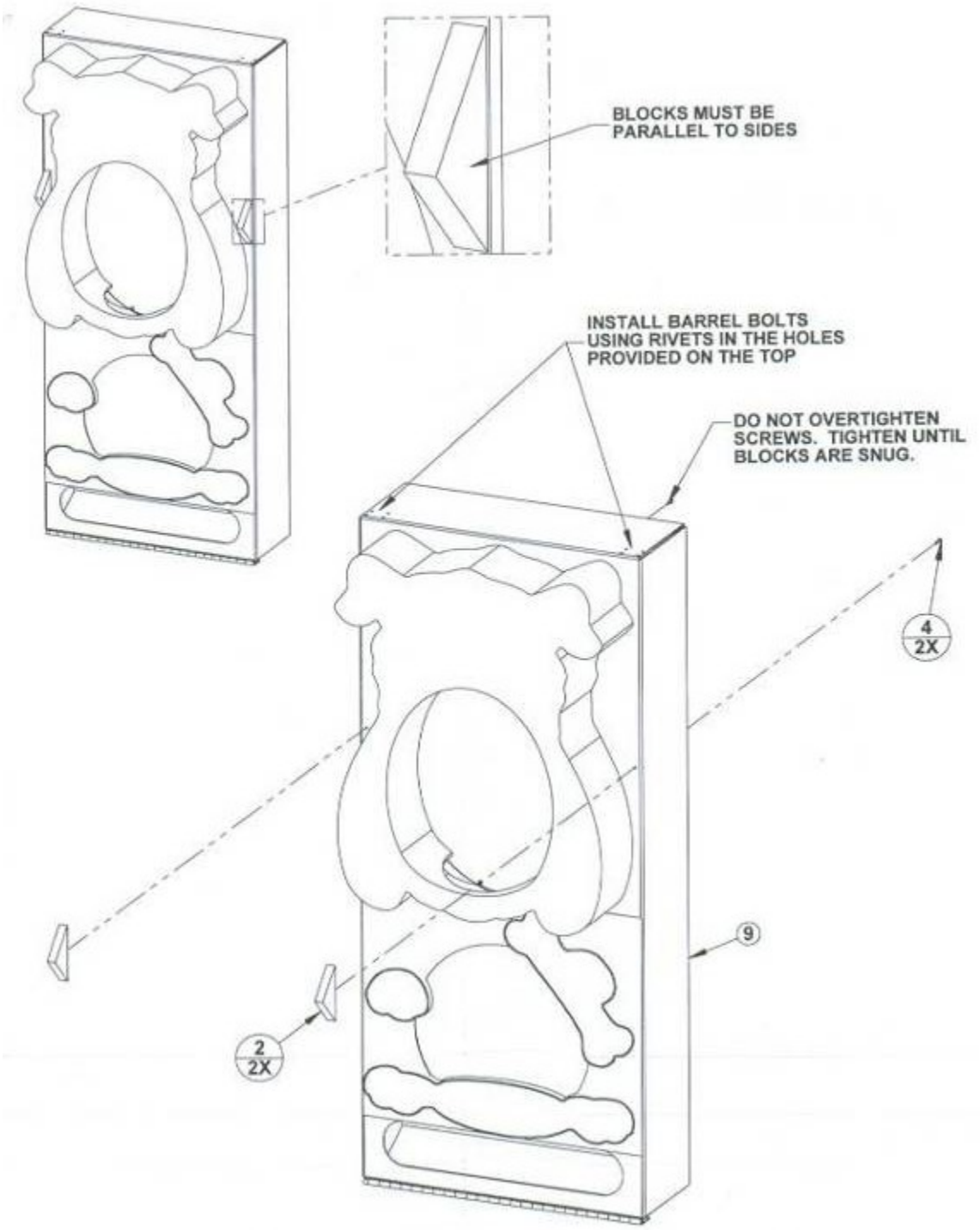
PARTS LISTING

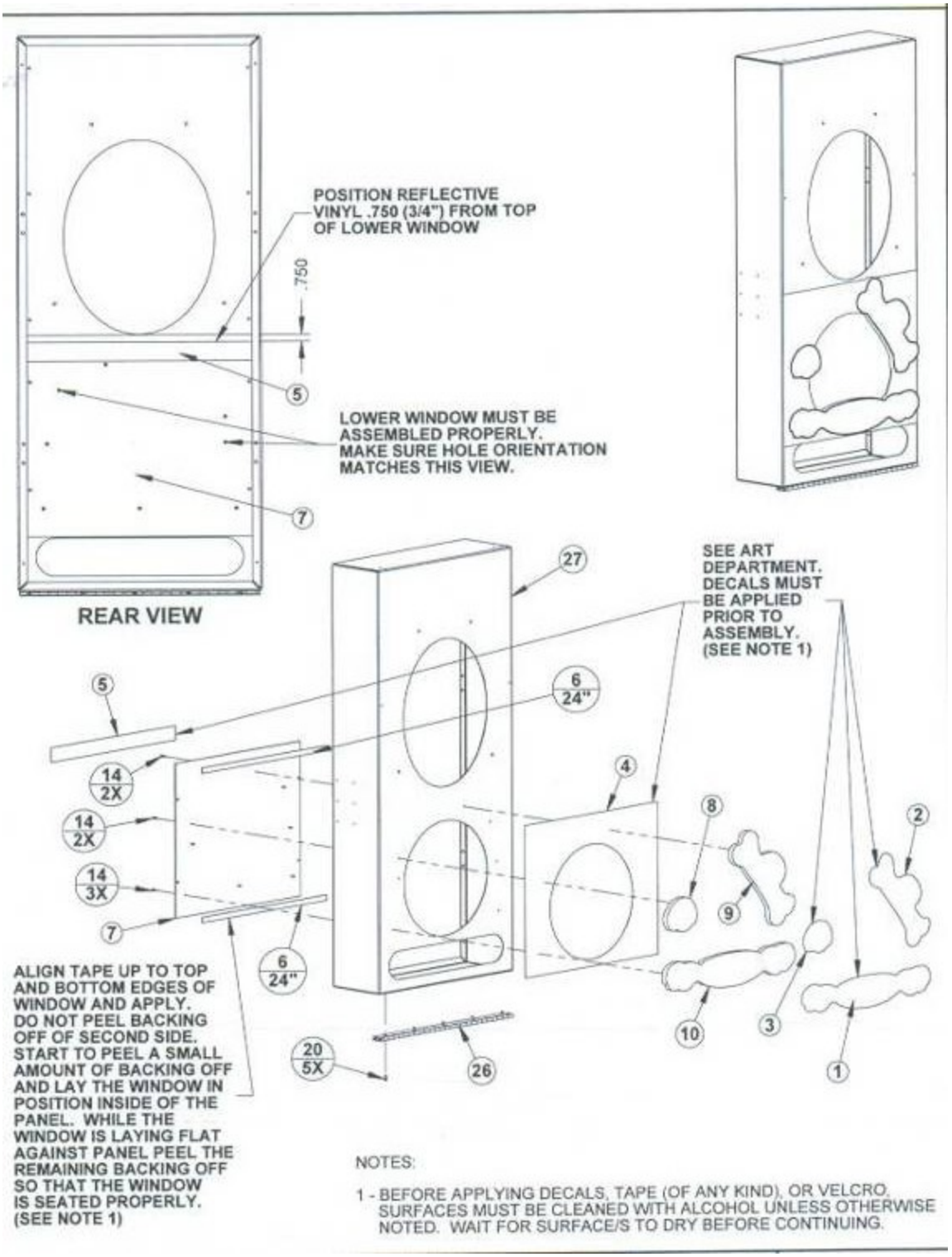
ITEM	PART #	DESCRIPTION	U/M	QTY
1	A0800416	DECAL PAW	EA	16
2	A0800417	DECAL BUTTON	EA	1
3	A0800421	DECAL MARQUEE	EA	1
4	A0800422	DECAL DISPLAY PANEL TIME LEFT	EA	1
5	CX800414	WINDOW MARQUEE	EA	1
6	CX800434	DISPLAY FILTER	EA	1
7	CX800448	CABINET MAIN ASSEMBLY	EA	1
8	E0800402	BOARD MAIN PC - DOG POUNDER	EA	1
9	H0000500	WASHER FLAT 1/4"USS 3/4"OD	EA	8
10	H0002505	SCREW WOOD SCRLX 8 X 3/4"PH BLACK	EA	6
11	H0002800	SCREW WOOD SCRLX 8 X 1 1/4 FH	EA	3
12	H0004835	SCREW MACH 6/32 X 3/4 PH/PHIL	EA	2
13	H0007100	BOLT HEX 1/4" X 2"	EA	6
14	H0009330	BOLT HEX 1/2" X 7" GRADE 5	EA	1
15	H0010300	NUT NYLON LOCK 1/2" NC	EA	1
16	H0010500	NUT NYLON LOCK 6/32 ZINC	EA	2
17	H0013310	THUMB SCREW 1/4-20 X 1"	EA	5
18	H0014890	ALLEN BUTTON HEAD 6-32 X 3/4" BLK	EA	6
19	H0014911	ALLEN BUTTON HEAD 1/4-20 X 1 1/4" BLACK	EA	8
20	H0800033	ALLEN BUTTON HEAD 1/4-20 X 3/4 BLK	EA	5
21	H0800068	ALLEN BUTTON HEAD 8-32 X 1 BLACK	EA	3
22	H0800079	WASHER FLAT 17/32"ID X 1"OD	EA	4
23	H0800081	NUT HEX 6/32 NYLON BLACK	EA	6
24	H0800086	ALLEN BUTTON HEAD 1/4-20 X 1 1/2" SS	EA	2
25	H0800088	BOLT TORX 1/4-20 X 1/2 BH PIN IN SS	EA	8
26	M0800205	TAPE FOAM INSULATION 1/2" X 3/4"	INCH	1
27	M0800417	BUTTON BALL THROW	EA	1
28	M0800425	ROD PIVOT BUTTON BALL THROW	EA	1
29	MX800400	TICKET DISPENSER ASSEMBLY	EA	1
30	MX800404	HAMMOCK BALL THROW PLASTIC ASSEMBLY	EA	1
31	MX800409	HAMMOCK CLAMP ASSEMBLY	EA	1
32	MX800410	CASHBOX ASSEMBLY	EA	1
33	MX800415	PIVOT MECH BASE ASSEMBLY - REV A	EA	1
34	MX800426	BUMPER PIVOT MECH	EA	2
35	MX800440	HOLDER MALLET DOG POUNDER ASSEMBLY	EA	1
36	MX800442	SHELF HAMMOCK SUPPORT ASSEMBLY	EA	1
37	MX800444	HAMMER DOG POUNDER ASSY	EA	1
38	W0800408	BRKT FRONT WINDOW RETAINING	EA	1
39	W0800409	PANEL REAR ACCESS COVER	EA	1
40	W0800411	COVER DISPLAY HOUSING	EA	1
41	W0800428	BRKT MARQUEE UPPER RETAINING	EA	1
42	W0800435	ROD BUTTON BALL THROW	EA	1
43	W0800462	BRKT FRONT WINDOW RETAINING OUTER LEFT	EA	1
44	W0800463	BRKT FRONT WINDOW RETAINING INNER LEFT	EA	1
45	W0800464	BRKT FRONT WINDOW RETAINING OUTER RIGHT	EA	1
46	W0800465	BRKT FRONT WINDOW RETAINING INNER RIGHT	EA	1
47	WX800402	DOOR ASSEMBLY	EA	1
48	WX800460	WINDOW CABINET FRONT FINISHED	EA	1

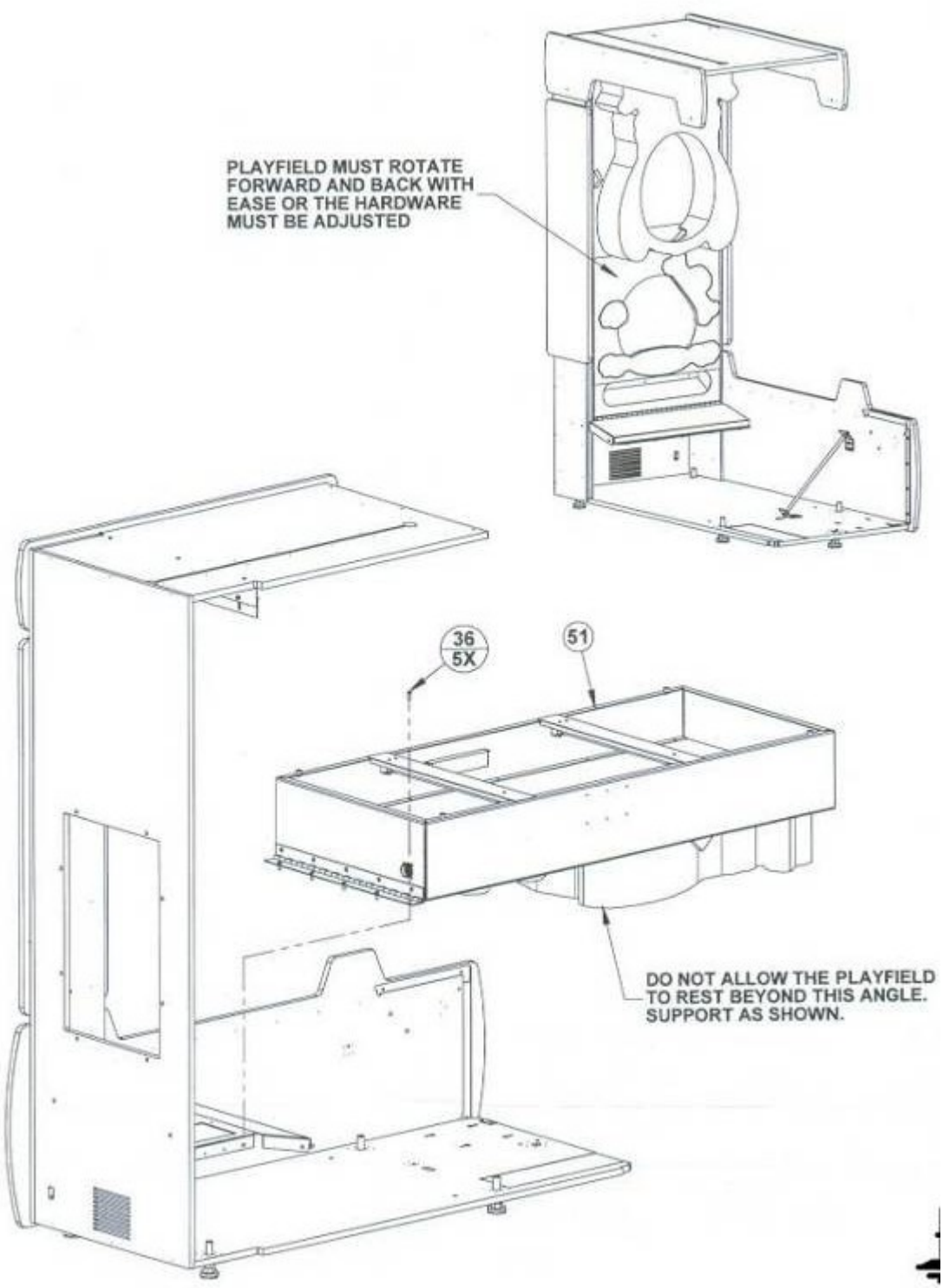
DOG HEAD ASSEMBLY

ITEM	PART #	DESCRIPTION	U/M	QTY
1	CX800433	PANEL HEAD BACK SUPPORT	EA	1
2	H0011996	INSERT PLASTIC THREADED .250-20	EA	4
3	MX800402	PAD DOG POUNDER HEAD LARGE	EA	2
4	MX800403	PAD DOG POUNDER HEAD SMALL	EA	1
5	MX800414	HEAD DOG POUNDER MODIFIED	EA	1


GENEROUSLY APPLY ADHESIVE (BSR #M0800002) TO THESE AREAS AND SPEED UP THE CURING TIME WITH ACCELERATOR (BSR #M0800003)
MAKE SURE HEAD SUPPORT PANEL SITS PARALLEL TO BACK OF DOG HEAD
5
3
3
1
4
USE 2" WIDE MASKING TAPE TO TAPE FRONT OF SMALL DOG HEAD PAD TO INSIDE OF DOG HEAD
2
4X
MAKE SURE ANGLED EDGE IS OPPOSITE INSERTS


BLOCKS MUST BE
PARALLEL TO SIDES
INSTALL BARREL BOLTS
USING RIVETS IN THE HOLES
PROVIDED ON THE TOP
DO NOT OVERTIGHTEN
SCREWS. TIGHTEN UNTIL
BLOCKS ARE SNUG.
4
2X
9
2
2X


POSITION REFLECTIVE VINYL .750 (3/4") FROM TOP OF LOWER WINDOW
.750
5
LOWER WINDOW MUST BE ASSEMBLED PROPERLY. MAKE SURE HOLE ORIENTATION MATCHES THIS VIEW.
7
REAR VIEW
27
SEE ART DEPARTMENT. DECALS MUST BE APPLIED PRIOR TO ASSEMBLY. (SEE NOTE 1)
5
6 24"
14 2X
14 2X
14 3X
7
4
8
2
9
6 24"
10
3
1
20 5X
26
ALIGN TAPE UP TO TOP AND BOTTOM EDGES OF WINDOW AND APPLY. DO NOT PEEL BACKING OFF OF SECOND SIDE. START TO PEEL A SMALL AMOUNT OF BACKING OFF AND LAY THE WINDOW IN POSITION INSIDE OF THE PANEL. WHILE THE WINDOW IS LAYING FLAT AGAINST PANEL PEEL THE REMAINING BACKING OFF SO THAT THE WINDOW IS SEATED PROPERLY. (SEE NOTE 1)
NOTES:
1 - BEFORE APPLYING DECALS, TAPE (OF ANY KIND), OR VELCRO, SURFACES MUST BE CLEANED WITH ALCOHOL UNLESS OTHERWISE NOTED. WAIT FOR SURFACE/S TO DRY BEFORE CONTINUING.

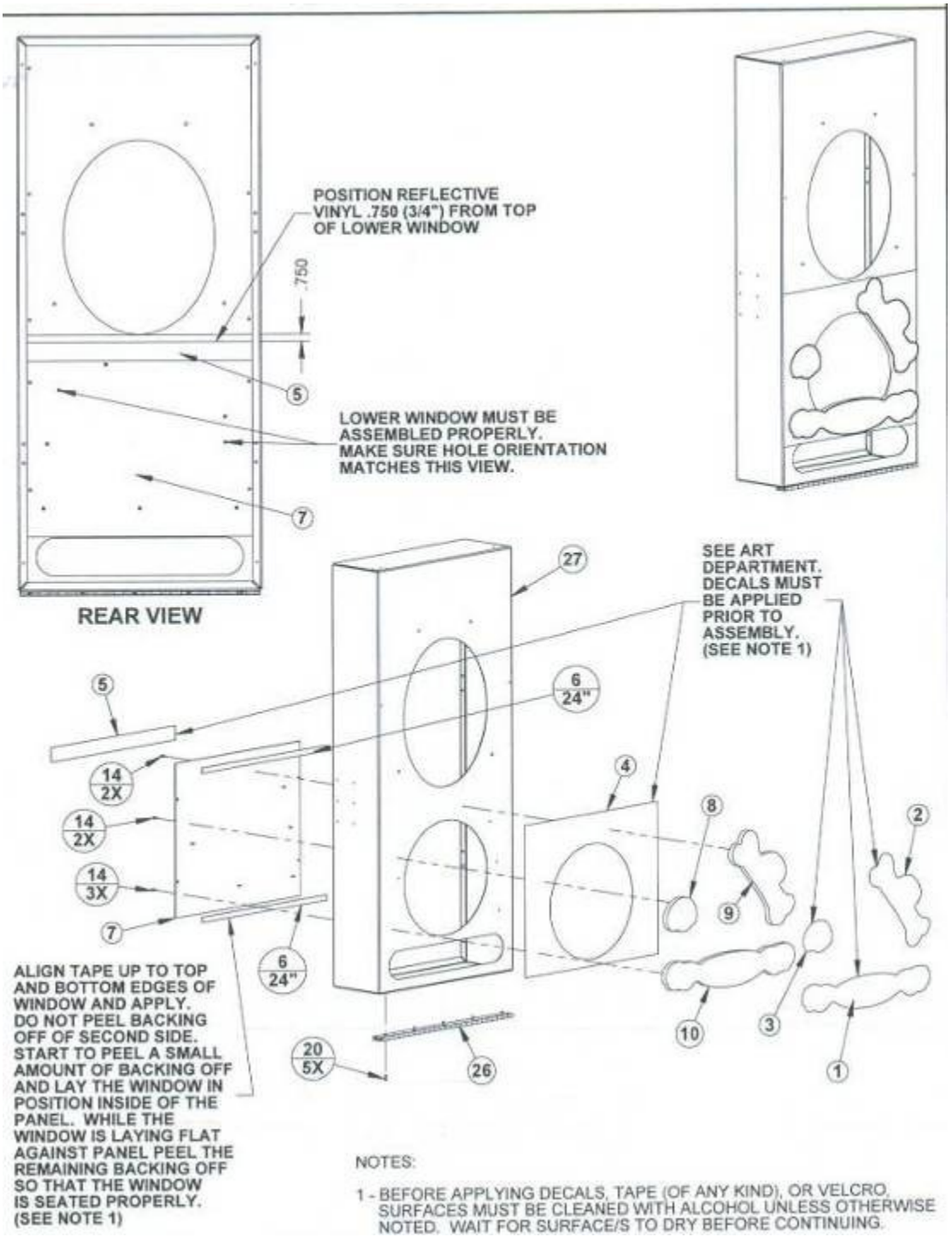

PLAYFIELD MUST ROTATE FORWARD AND BACK WITH EASE OR THE HARDWARE MUST BE ADJUSTED
36
5X
51
DO NOT ALLOW THE PLAYFIELD TO REST BEYOND THIS ANGLE. SUPPORT AS SHOWN.

ITEM	PART #	DESCRIPTION	U/M	QTY
1	A0800413	DECAL BONUS	EA	1
2	C0007955	MOLDING "T" 13/16" BLACK SMOOTH	INCH	806
3	CX800401	PANEL CABINET LEFT LOWER	EA	1
4	CX800402	PANEL CABINET RIGHT LOWER	EA	1
5	CX800403	PANEL CABINET BASE	EA	1
6	CX800404	PANEL CABINET BACK	EA	1
7	CX800405	PANEL CABINET LEFT UPRIGHT	EA	1
8	CX800406	PANEL CABINET RIGHT UPRIGHT	EA	1
9	CX800407	PANEL CABINET UPRIGHT COVER	EA	2
10	CX800408	PANEL CABINET LEFT UPPER	EA	1
11	CX800409	PANEL CABINET RIGHT UPPER	EA	1
12	CX800410	PANEL CABINET TOP	EA	1
13	CX800412	STOP FRONT DOOR	EA	1
14	E0027140	FILTER EMI - ARC	EA	1
15	EX800400	BOX ASSEMBLY 110VOLT - DOG POUNDER	EA	1
16	H0000200	WASHER FLAT #8 USS ZINC	EA	2
17	H0000500	WASHER FLAT 1/4"USS 3/4"OD	EA	3
18	H0000509	WASHER FLAT 1/4 X 5/8" OD SS	EA	1
19	H0001375	WASHER FENDER 1/4" X 1" OD SS	EA	2
20	H0002100	SCREW WOOD SCRLX 6 X 3/4"PH	EA	2
21	H0002505	SCREW WOOD SCRLX 8 X 3/4"PH BLACK	EA	82
22	H0002800	SCREW WOOD SCRLX 8 X 1 1/4 FH	EA	40
23	H0003310	SCREW WOOD SCRLX 8 X 2"FH BLACK	EA	52
24	H0006420	CAP SQUARE DRIVE PLASTIC BLACK	EA	18
25	H0006700	BOLT HEX 1/4" X 1"	EA	3
26	H0006800	BOLT HEX 1/4" X 1 1/4"	EA	1
27	H0009916	BOLT CARRIAGE 1/4" X 1 1/4" BLACK	EA	3
28	H0009921	BOLT CARRIAGE 1/4" X 1 1/2" BLACK	EA	2
29	H0010690	NUT JAM 1/4 NC	EA	2
30	H0011800	NUT JAM 1/2" NC	EA	4
31	H0011996	INSERT PLASTIC THREADED .250-20	EA	24
32	H0013310	THUMB SCREW 1/4-20 X 1"	EA	2
33	H0014913	ALLEN BUTTON HEAD 1/4-20 X 1 SS	EA	2
34	H0800008	NUT KEP 1/4-20	EA	5
35	H0800010	INSERT PLASTIC THREADED #8-32	EA	3
36	H0800033	ALLEN BUTTON HEAD 1/4-20 X 3/4 BLK	EA	5
37	H0800069	SPACER THREADED 1/4-20 X 1/2 NYLON	EA	2
38	H0800070	ROLL PIN 1/4" X 1 1/4" SLOTTED	EA	4
39	H0800083	BOLT CARRIAGE 1/4" X 2" BLACK	EA	2
40	M0800001	BUMPER RUBBER 5/8" X 13/32"	EA	2
41	W0800083	MOUNT FOOT	EA	5
42	W0800084	LEVELER FOOT	EA	4
43	W0800401	BRKT PLAYFIELD MTG	EA	1
44	W0800429	BKRT PLAYFIELD RETAINING	EA	1
45	W0800430	PANEL FILLER UPPER	EA	1
46	W0800432	LOCK FRONT DOOR BOTTOM STOP	EA	1
47	W0800433	GUARD CABLE UPPER	EA	1
48	W0800445	BRKT CABINET FRONT SUPPORT	EA	2
49	W0800446	ROD THREADED 1/2-13 X 18"	EA	1
50	WX800084	LEVELER FOOT MODIFIED 1 3/8" THREAD	EA	1
51	WX800407	PLAYFIELD ARCADE ASSEMBLY	EA	1

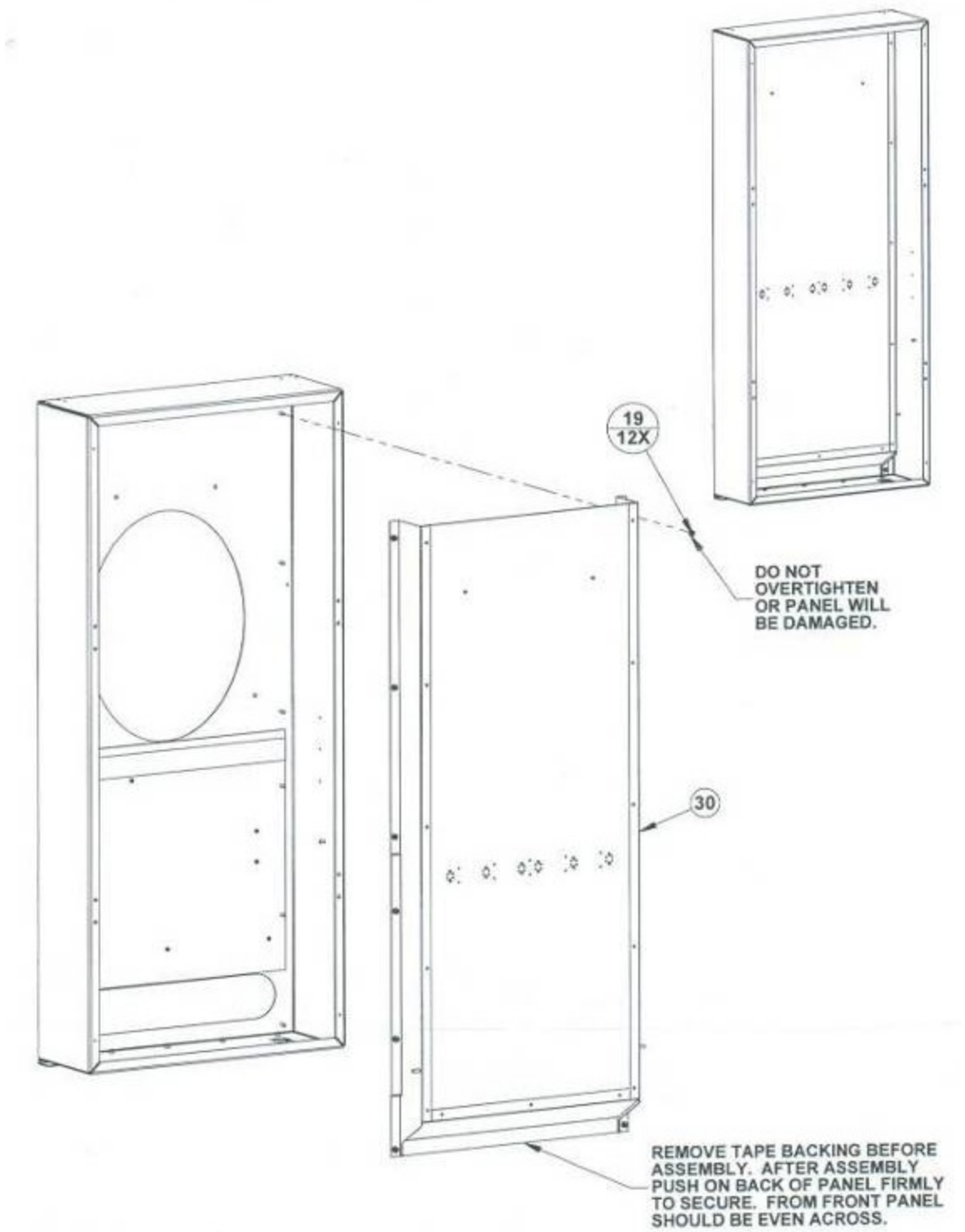
PARTS LISTING

ITEM	PART #	DESCRIPTION	U/M	QTY
1	A0800413	DECAL BONUS	EA	1
2	C0007955	MOLDING "T" 13/16" BLACK SMOOTH	INCH	806
3	CX800401	PANEL CABINET LEFT LOWER	EA	1
4	CX800402	PANEL CABINET RIGHT LOWER	EA	1
5	CX800403	PANEL CABINET BASE	EA	1
6	CX800404	PANEL CABINET BACK	EA	1
7	CX800405	PANEL CABINET LEFT UPRIGHT	EA	1
8	CX800406	PANEL CABINET RIGHT UPRIGHT	EA	1
9	CX800407	PANEL CABINET UPRIGHT COVER	EA	2
10	CX800408	PANEL CABINET LEFT UPPER	EA	1
11	CX800409	PANEL CABINET RIGHT UPPER	EA	1
12	CX800410	PANEL CABINET TOP	EA	1
13	CX800412	STOP FRONT DOOR	EA	1
14	E0027140	FILTER EMI - ARC	EA	1
15	EX800400	BOX ASSEMBLY 110VOLT - DOG POUNDER	EA	1
16	H0000200	WASHER FLAT #8 USS ZINC	EA	2
17	H0000500	WASHER FLAT 1/4"USS 3/4"OD	EA	3
18	H0000509	WASHER FLAT 1/4 X 5/8" OD SS	EA	1
19	H0001375	WASHER FENDER 1/4" X 1" OD SS	EA	2
20	H0002100	SCREW WOOD SCRLX 6 X 3/4"PH	EA	2
21	H0002505	SCREW WOOD SCRLX 8 X 3/4"PH BLACK	EA	82
22	H0002800	SCREW WOOD SCRLX 8 X 1 1/4 FH	EA	40
23	H0003310	SCREW WOOD SCRLX 8 X 2"FH BLACK	EA	52
24	H0006420	CAP SQUARE DRIVE PLASTIC BLACK	EA	18
25	H0006700	BOLT HEX 1/4" X 1"	EA	3
26	H0006800	BOLT HEX 1/4" X 1 1/4"	EA	1
27	H0009916	BOLT CARRIAGE 1/4" X 1 1/4" BLACK	EA	3
28	H0009921	BOLT CARRIAGE 1/4" X 1 1/2" BLACK	EA	2
29	H0010690	NUT JAM 1/4 NC	EA	2
30	H0011800	NUT JAM 1/2" NC	EA	4
31	H0011996	INSERT PLASTIC THREADED .250-20	EA	24
32	H0013310	THUMB SCREW 1/4-20 X 1"	EA	2
33	H0014913	ALLEN BUTTON HEAD 1/4-20 X 1 SS	EA	2
34	H0800008	NUT KEP 1/4-20	EA	5
35	H0800010	INSERT PLASTIC THREADED #8-32	EA	3
36	H0800033	ALLEN BUTTON HEAD 1/4-20 X 3/4 BLK	EA	5
37	H0800069	SPACER THREADED 1/4-20 X 1/2 NYLON	EA	2
38	H0800070	ROLL PIN 1/4" X 1 1/4" SLOTTED	EA	4
39	H0800083	BOLT CARRIAGE 1/4" X 2" BLACK	EA	2
40	M0800001	BUMPER RUBBER 5/8" X 13/32"	EA	2
41	W0800083	MOUNT FOOT	EA	5
42	W0800084	LEVELER FOOT	EA	4
43	W0800401	BRKT PLAYFIELD MTG	EA	1
44	W0800429	BKRT PLAYFIELD RETAINING	EA	1
45	W0800430	PANEL FILLER UPPER	EA	1
46	W0800432	LOCK FRONT DOOR BOTTOM STOP	EA	1
47	W0800433	GUARD CABLE UPPER	EA	1
48	W0800445	BRKT CABINET FRONT SUPPORT	EA	2
49	W0800446	ROD THREADED 1/2-13 X 18"	EA	1
50	WX800084	LEVELER FOOT MODIFIED 1 3/8" THREAD	EA	1
51	WX800407	PLAYFIELD ARCADE ASSEMBLY	EA	1

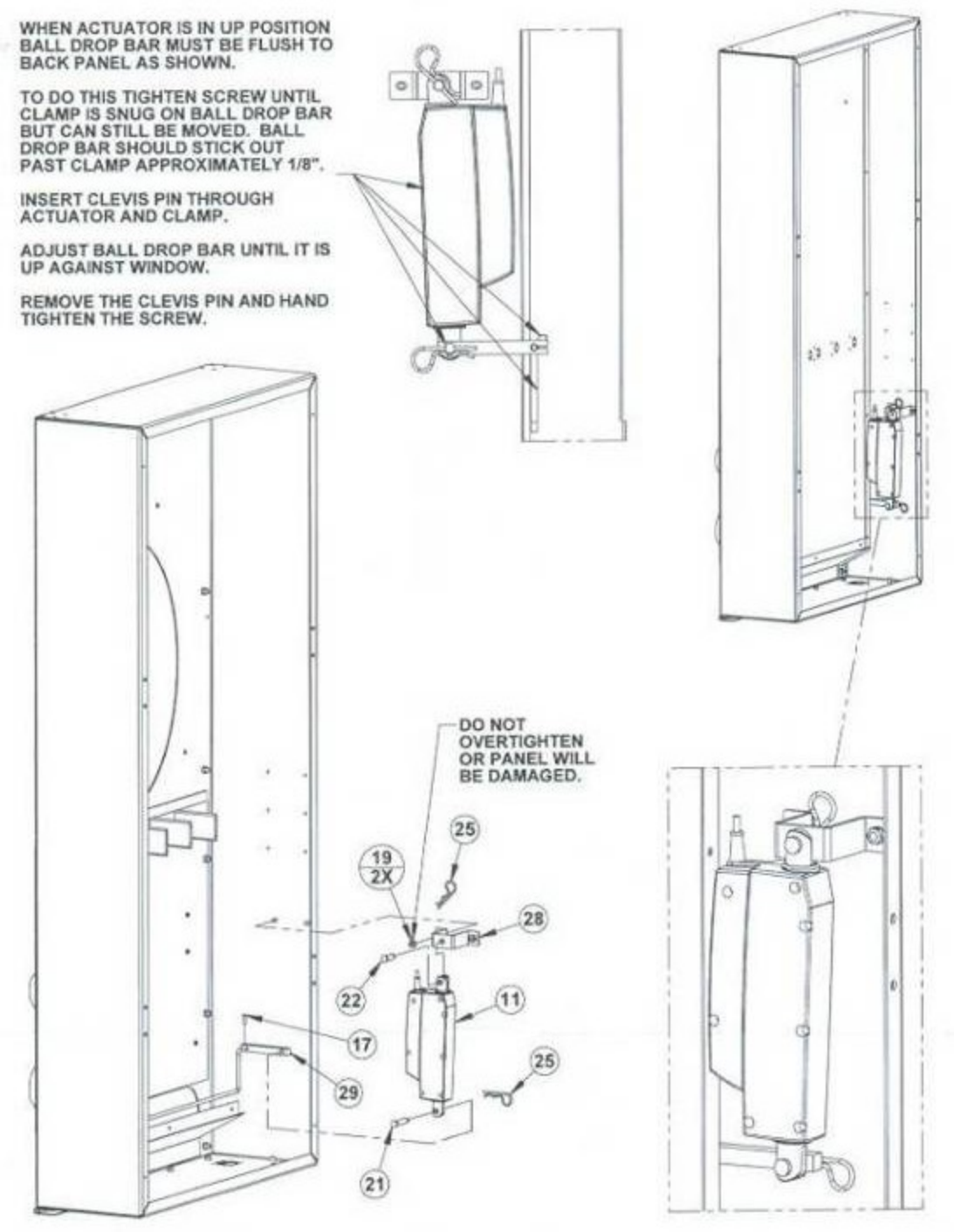
DOG HEAD BASE ASSEMBLY


POSITION REFLECTIVE VINYL .750 (3/4") FROM TOP OF LOWER WINDOW
.750
5
LOWER WINDOW MUST BE ASSEMBLED PROPERLY. MAKE SURE HOLE ORIENTATION MATCHES THIS VIEW.
7
REAR VIEW
27
SEE ART DEPARTMENT. DECALS MUST BE APPLIED PRIOR TO ASSEMBLY. (SEE NOTE 1)
5
6 24"
14 2X
14 2X
14 3X
4
8
2
9
7
6 24"
ALIGN TAPE UP TO TOP AND BOTTOM EDGES OF WINDOW AND APPLY. DO NOT PEEL BACKING OFF OF SECOND SIDE. START TO PEEL A SMALL AMOUNT OF BACKING OFF AND LAY THE WINDOW IN POSITION INSIDE OF THE PANEL. WHILE THE WINDOW IS LAYING FLAT AGAINST PANEL PEEL THE REMAINING BACKING OFF SO THAT THE WINDOW IS SEATED PROPERLY. (SEE NOTE 1)
20 5X
26
10
3
1
NOTES:
1 - BEFORE APPLYING DECALS, TAPE (OF ANY KIND), OR VELCRO, SURFACES MUST BE CLEANED WITH ALCOHOL UNLESS OTHERWISE NOTED. WAIT FOR SURFACE/S TO DRY BEFORE CONTINUING.

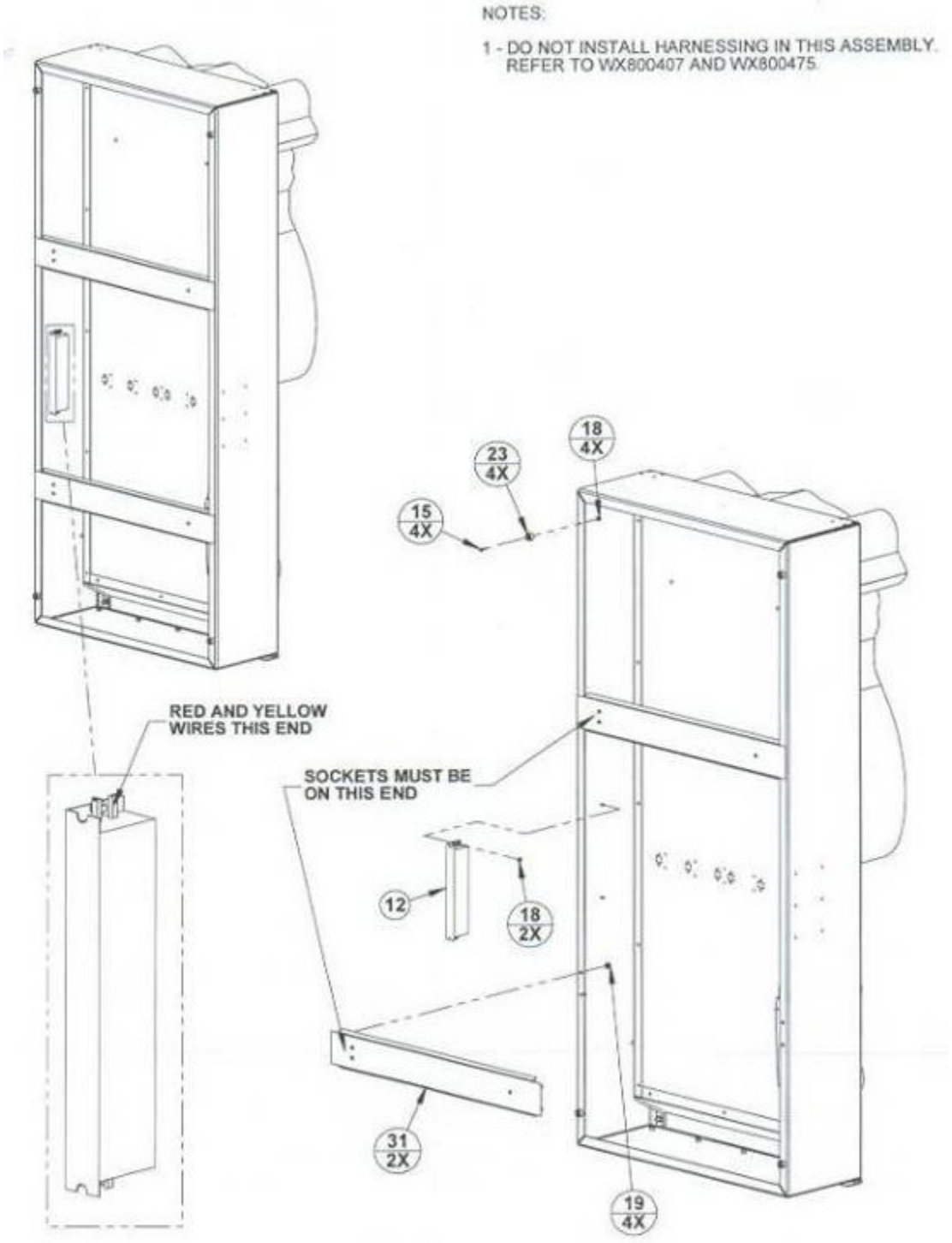
PLAYFIELD BASE ASSEMBLY



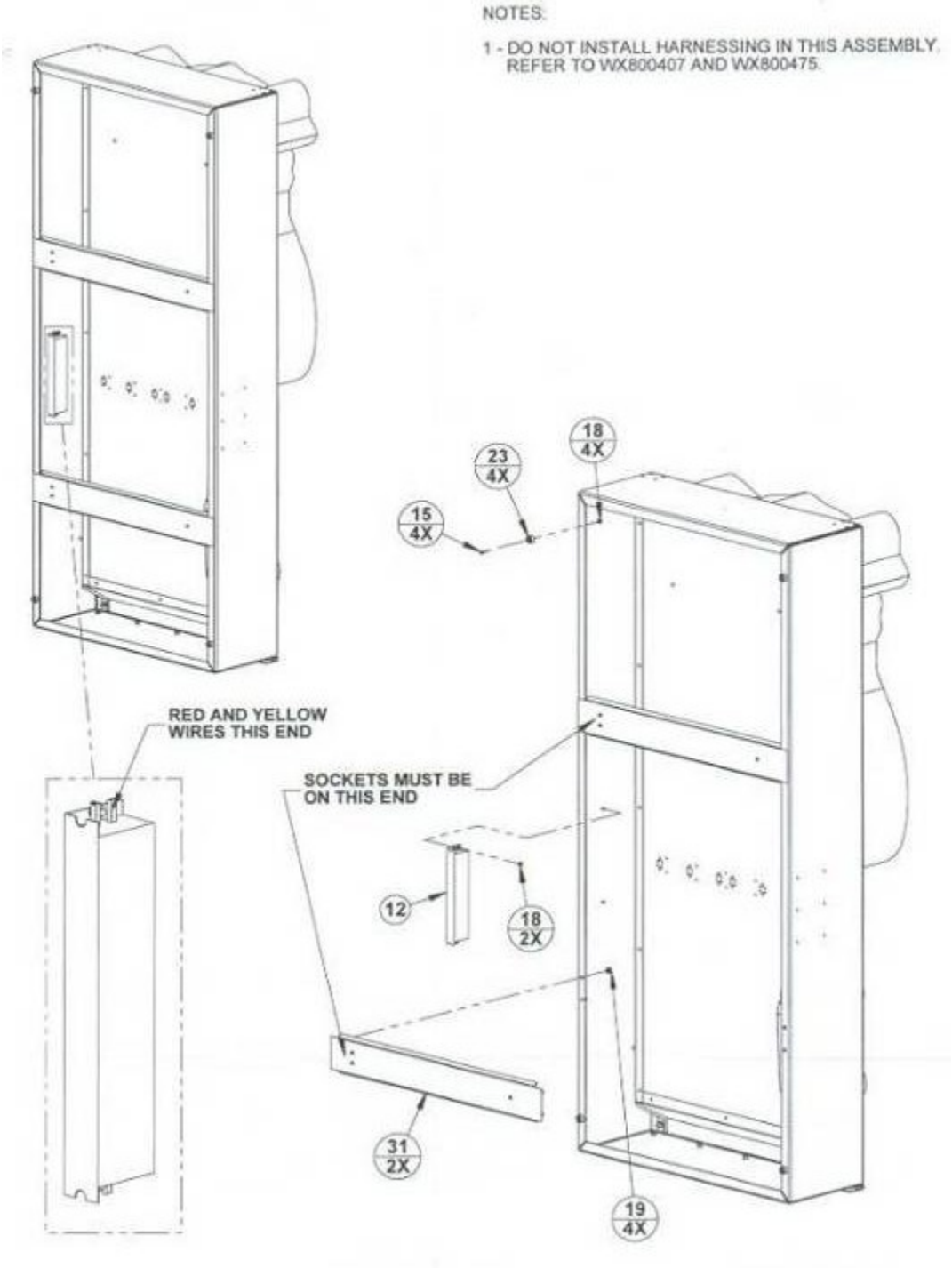
PLAYFIELD BASE ASSEMBLY


WHEN ACTUATOR IS IN UP POSITION BALL DROP BAR MUST BE FLUSH TO BACK PANEL AS SHOWN.
TO DO THIS TIGHTEN SCREW UNTIL CLAMP IS SNUG ON BALL DROP BAR BUT CAN STILL BE MOVED. BALL DROP BAR SHOULD STICK OUT PAST CLAMP APPROXIMATELY 1/8".
INSERT CLEVIS PIN THROUGH ACTUATOR AND CLAMP.
ADJUST BALL DROP BAR UNTIL IT IS UP AGAINST WINDOW.
REMOVE THE CLEVIS PIN AND HAND TIGHTEN THE SCREW.
DO NOT OVERTIGHTEN OR PANEL WILL BE DAMAGED.
19 2X
25
28
22
11
17
29
25
21

PLAYFIELD BASE ASSEMBLY



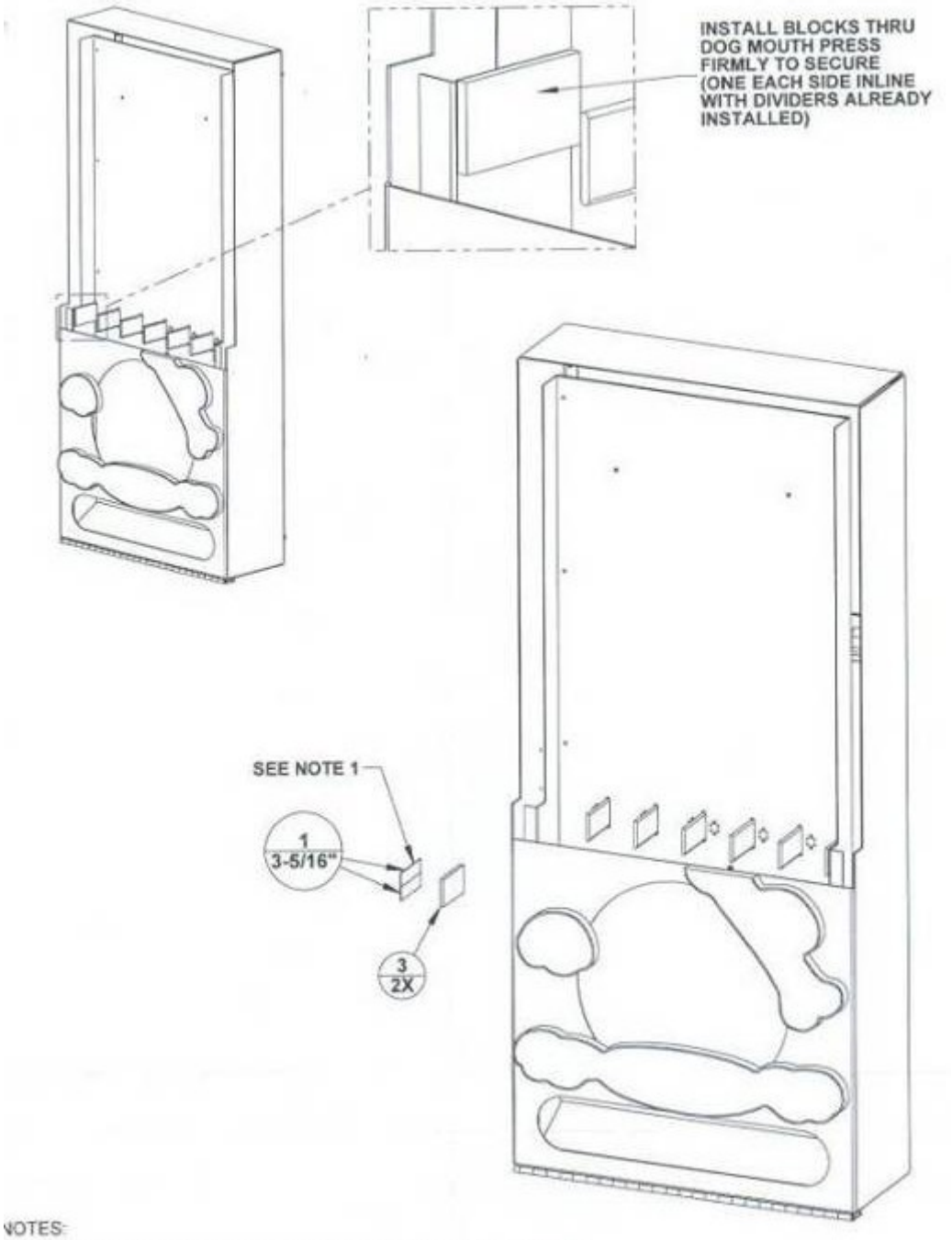
PLAYFIELD BASE ASSEMBLY



PARTS LISTING

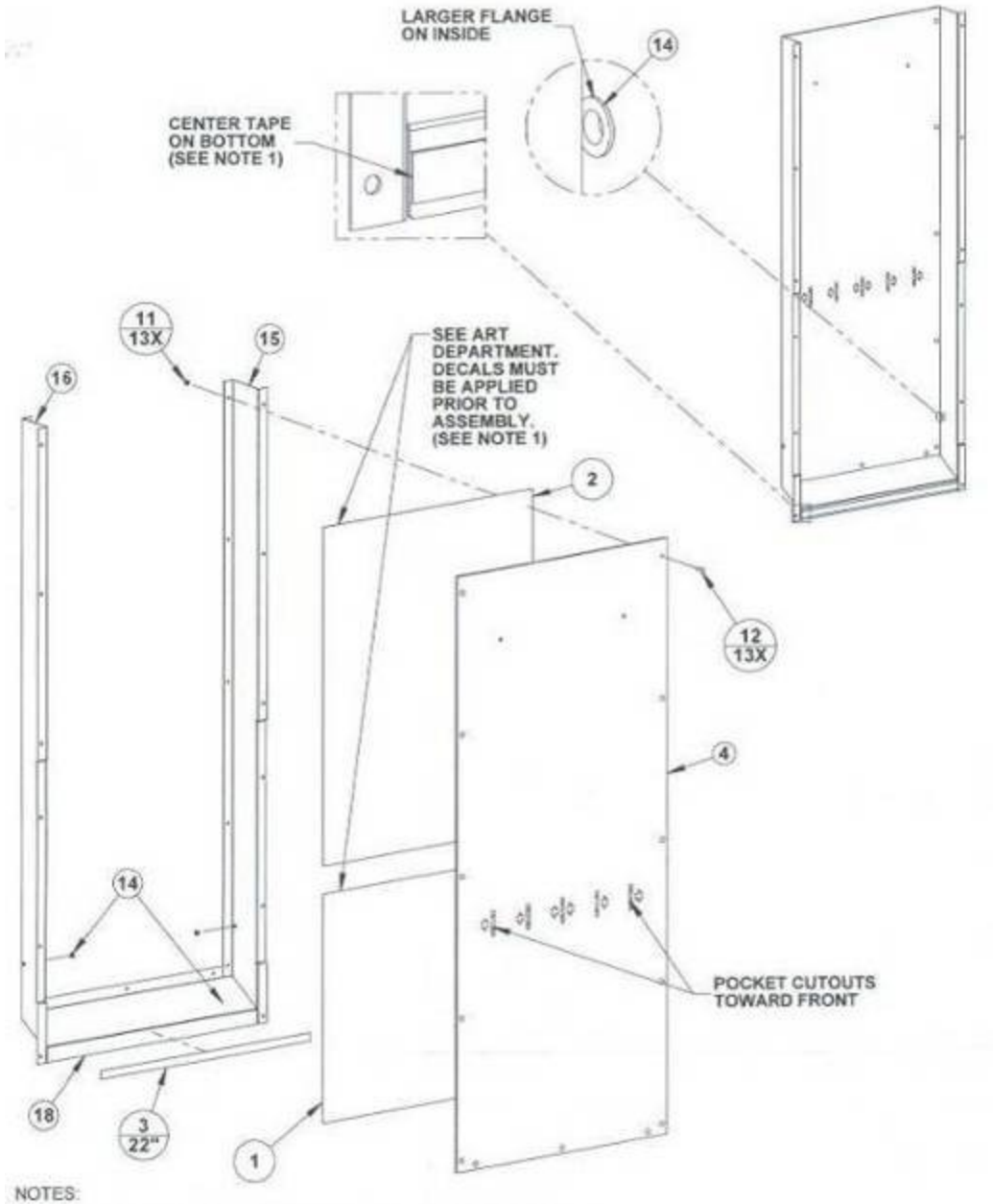
PLAYFIELD BASE ASSEMBLY

ITEM	PART #	DESCRIPTION	U/M	QTY
1	A0800414	DECAL FOOD BOWL	EA	1
2	A0800415	DECAL BONE	EA	1
3	A0800416	DECAL PAW	EA	1
4	A0800419	DECAL DOG BODY	EA	1
5	AX800402	VINYL PLAYFIELD SENSOR REFLECTOR	EA	1
6	C0005024	TAPE 3/4" X 1/16" DOUBLE COATED FOAM BLK	INCH	48
7	CX800430	WINDOW PLAYFIELD LOWER	EA	1
8	CX800441	PLAYFIELD FOOT SHAPE	EA	1
9	CX800442	PLAYFIELD BONE SHAPE	EA	1
10	CX800443	PLAYFIELD BOWL SHAPE	EA	1
11	E0800031	ACTUATOR LINEAR W/MICROSWITCH 40MM STROKE	EA	1
12	E0800040	BALLAST 120V FLUORESCENT WH6-120-L	EA	1
13	H0000500	WASHER FLAT 1/4"USS 3/4"OD	EA	4
14	H0002505	SCREW WOOD SCRLX 8 X 3/4"PH BLACK	EA	8
15	H0004920	SCREW MACH 6/32 X 1/2 PH PHILLIPS	EA	4
16	H0006900	BOLT HEX 1/4" X 1 1/2"	EA	4
17	H0014712	ALLEN SOCKET HEAD 10-32 X 1/2	EA	1
18	H0800001	NUT KEP #6-32	EA	6
19	H0800008	NUT KEP 1/4-20	EA	22
20	H0800015	ALLEN BUTTON HEAD 1/4-20 X 1/2	EA	5
21	H0800080	CLEVIS PIN 3/8" DIA X 1-33/64" USABLE	EA	1
22	M0005012	CLEVIS PIN .375 X .860 USEABLE	EA	1
23	M0800001	BUMPER RUBBER 5/8" X 13/32"	EA	4
24	MX800417	DOG HEAD ASSEMBLY	EA	1
25	T0000400	PIN COTTER 'R' WIRE DIAMETER .120 #10	EA	2
26	W0800404	HINGE PLAYFIELD PANEL	EA	1
27	W0800405	PANEL PLAYFIELD	EA	1
28	W0800415	BRKT PLAYFIELD ACTUATOR MTG	EA	1
29	W0800443	CLAMP BALL DROP BAR	EA	1
30	WX800404	PLAYFIELD INNER ASSEMBLY	EA	1
31	WX800405	PLAYFIELD LAMP ASSEMBLY	EA	2



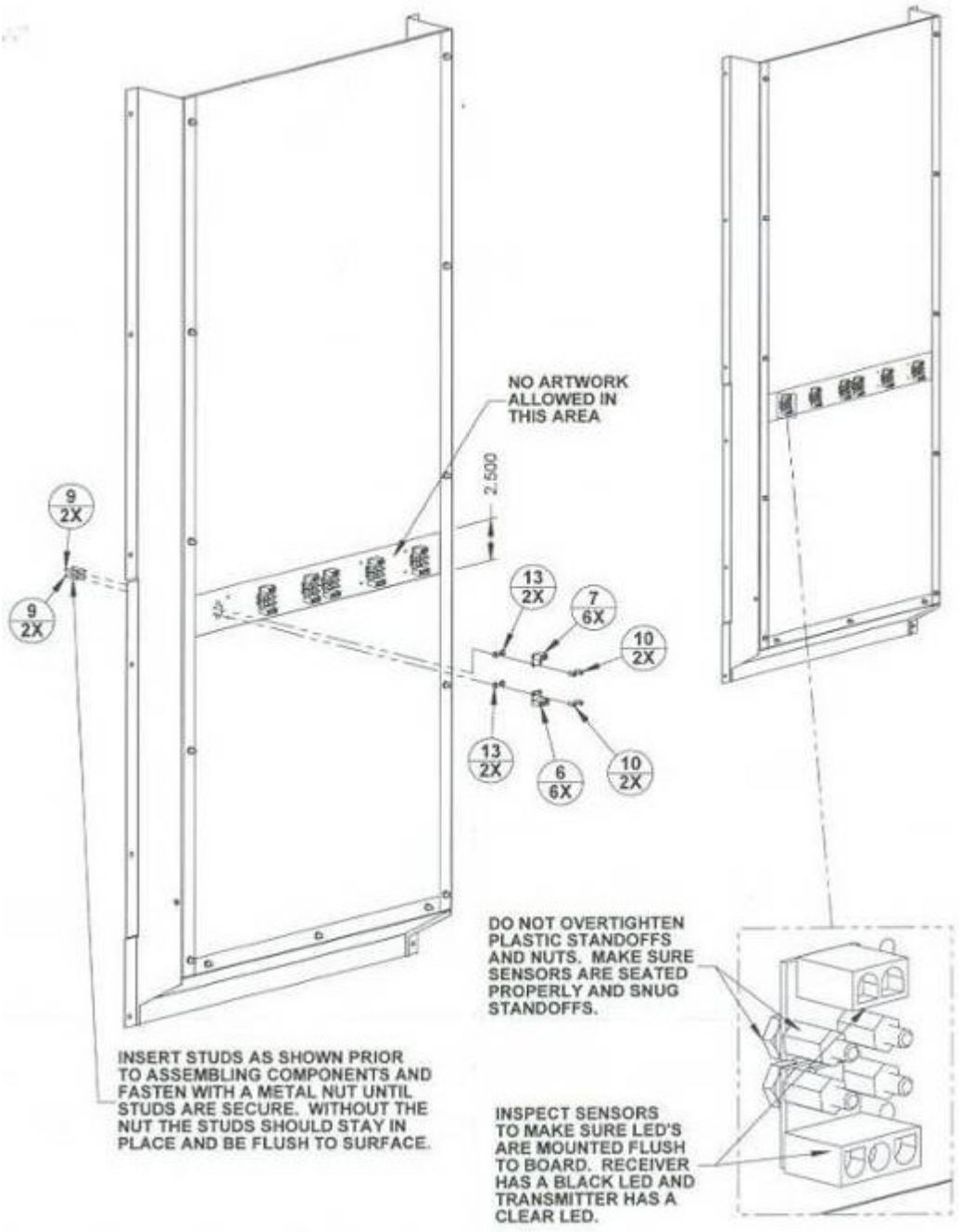
NOTES:

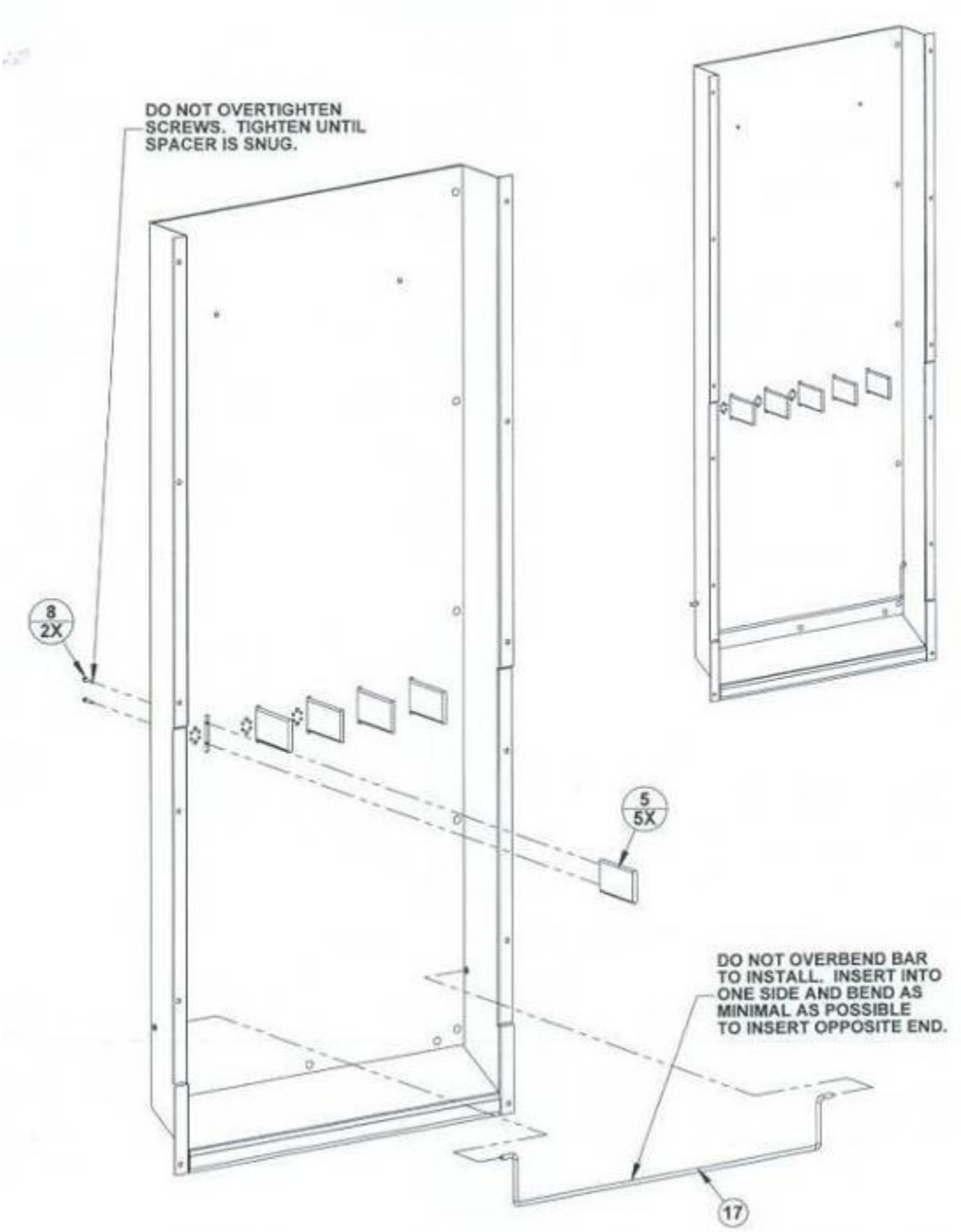
1 - BEFORE APPLYING DECALS, TAPE (OF ANY KIND), OR VELCRO, SURFACES MUST BE CLEANED WITH ALCOHOL UNLESS OTHERWISE NOTED. WAIT FOR SURFACE/S TO DRY BEFORE CONTINUING.



NOTES:

1 - BEFORE APPLYING DECALS, TAPE (OF ANY KIND), OR VELCRO, SURFACES MUST BE CLEANED WITH ALCOHOL UNLESS OTHERWISE NOTED. WAIT FOR SURFACE/S TO DRY BEFORE CONTINUING.


NO ARTWORK ALLOWED IN THIS AREA
2.500
9 2X
9 2X
13 2X
7 6X
10 2X
13 2X
6 6X
10 2X
INSERT STUDS AS SHOWN PRIOR TO ASSEMBLING COMPONENTS AND FASTEN WITH A METAL NUT UNTIL STUDS ARE SECURE. WITHOUT THE NUT THE STUDS SHOULD STAY IN PLACE AND BE FLUSH TO SURFACE.
DO NOT OVERTIGHTEN PLASTIC STANDOFFS AND NUTS. MAKE SURE SENSORS ARE SEATED PROPERLY AND SNUG STANDOFFS.
INSPECT SENSORS TO MAKE SURE LED'S ARE MOUNTED FLUSH TO BOARD. RECEIVER HAS A BLACK LED AND TRANSMITTER HAS A CLEAR LED.


DO NOT OVERTIGHTEN SCREWS. TIGHTEN UNTIL SPACER IS SNUG.
8
2X
5
5X
DO NOT OVERBEND BAR TO INSTALL. INSERT INTO ONE SIDE AND BEND AS MINIMAL AS POSSIBLE TO INSERT OPPOSITE END.
17

ITEM	PART #	DESCRIPTION	U/M	QTY
1	A0800410	DECAL BELLY	EA	1
2	A0800411	DECAL MOUTH	EA	1
3	C0005024	TAPE 3/4" X 1/16" DOUBLE COATED FOAM BLK	INCH	22
4	CX800431	WINDOW PLAYFIELD REAR	EA	1
5	CX800432	SPACER SENSOR BALL DROP	EA	5
6	E0800154	SENSOR TUBE RECEIVER RX-1	EA	6
7	E0800165	SENSOR TUBE TRANSMITTER TX-1B	EA	6
8	H0002100	SCREW WOOD SCRLX 6 X 3/4"PH	EA	10
9	H0800011	STUD 6-32 X 1" PEM	EA	24
10	H0800029	STANDOFF PLASTIC #6-32 X 3/8"	EA	24
11	H0800064	NUT KEP #10-24	EA	13
12	H0800065	BOLT CARRIAGE 3/16" X 3/4" BLK	EA	13
13	H0800081	NUT HEX 6/32 NYLON BLACK	EA	24
14	M0800419	BUSHING FLANGE .251 ID NYLON SNAP-IN	EA	2
15	W0800402	BRKT PLAYFIELD INNER RIGHT MTG	EA	1
16	W0800403	BRKT PLAYFIELD INNER LEFT MTG	EA	1
17	W0800414	BAR BALL DROP	EA	1
18	W0800416	CHUTE PLAYFIELD	EA	1

AIR COMPRESSOR

AIR COMPRESSOR MAINTENANCE

Daily: Check for proper oil level (use SAE-30 non-detergent); drain and condensate from receiver and traps; listen for any unusual noises and check for vibrations.

Weekly: Visually check air filter for debris and dust; clean all external parts of compressor and driver; test safety valve manually to be certain it does not stick.

Monthly: Inspect entire system for leaks; inspect oil for contamination and change if necessary; check belt tension and wear.

Three (3) Months: Make a complete oil change; inspect valve assemblies.

AIR COMPRESSOR AND AIR PRESSURE ADJUSTMENT

All Dog Pounder™ games require compressed air to activate the balls. This is either supplied by the customer or by an on-board compressor supplied by Bob's Space Racers®. There are two sizes of Compressors used in Dog Pounder™ Group games, depending upon the number of units in the game.

Air pressure adjustment is very important. Too much pressure can cause the balls to be thrown over the Dog's mouth and not into the opening of the Dog's mouth. The recommended procedure for air pressure adjustment is as follows:

1. Turn all units on so that all buttons are working.

2. Decrease the regulator pressure by turning the screw on the bottom of the pressure regulator counter-clockwise until the Balls are no longer being thrown over the dog's mouth.

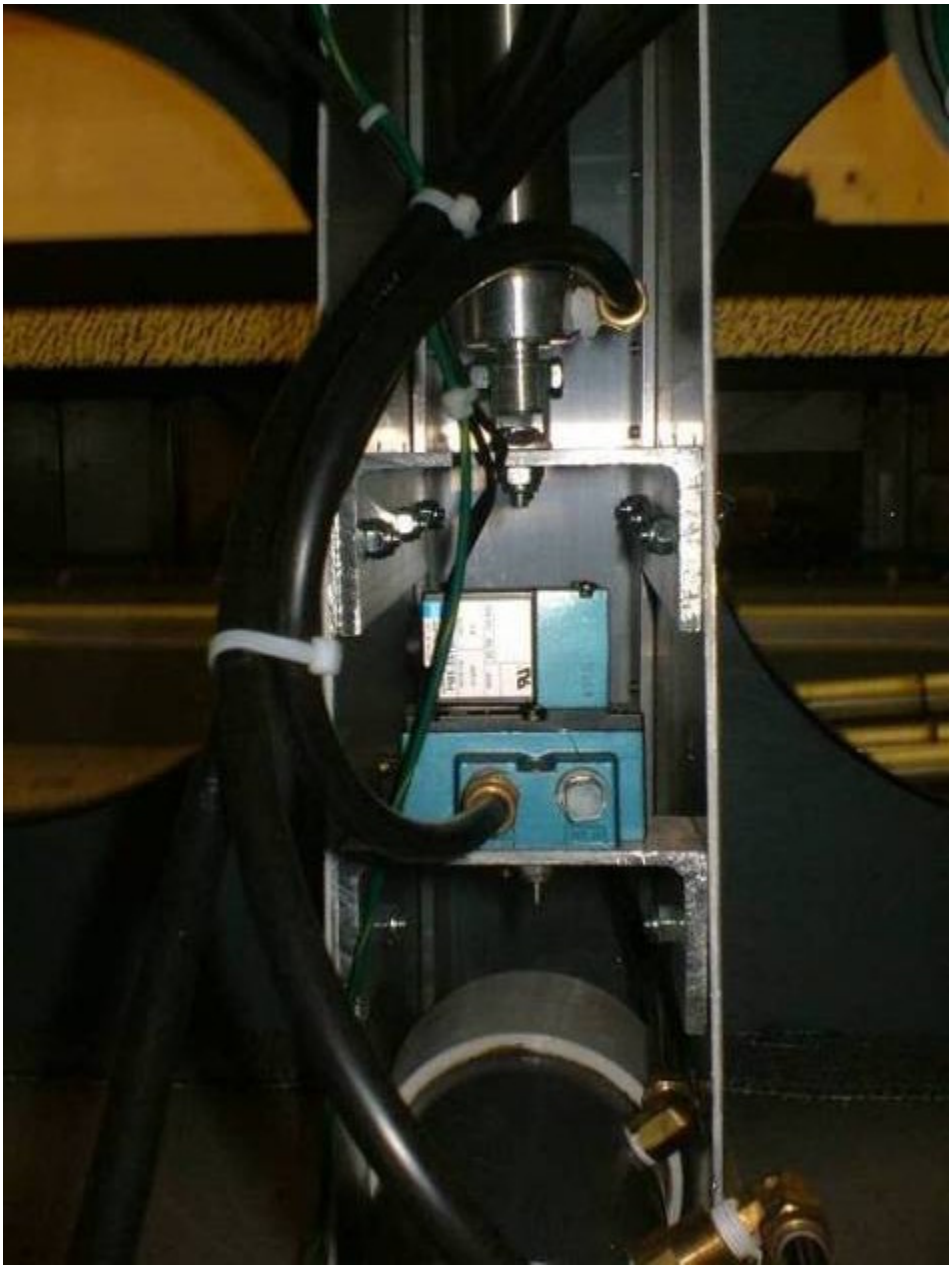
3. Slowly increase the pressure to around 90 P.S.I. and stop as soon as the cylinders are getting a full extension. Do not increase pressure any further.

If you follow this procedure, the reading on the regulator gauge should be somewhere between 80 and 90 P.S.I.

* * IMPORTANT * *

There is important safety information on the Compressor, as well as proper grounding instructions, in the Appendix Section on COMPRESSORS. Read this information carefully before operating the compressor.

AIR COMPRESSOR
(front view)



APPENDICES

SOUND UNIT

SOUND SYSTEMS

SOUND SYSTEM OVERVIEW

AMPLIFIERS

The amplifiers we have used over the years have, changed. Originally we used a Bogen Amplifier which had a 70V speaker system. The Yorkville Sound 4200 and KMD 4200 Amplifiers were the next ones used beginning in the early 1980's. They are similar in operations with only a cosmetic difference on their face units. The Yorkville Sound 6400 Amplifier was used after that. This was used in some Whac-A-Mole® trailers because they have more speakers than other games. Presently we use a Yorkville Sound MM4, or MP4, Amplifier System. This unit has more power and is more user-friendly. The hook-up of all of the above amplifiers is pretty much the same: power, speaker, etc.

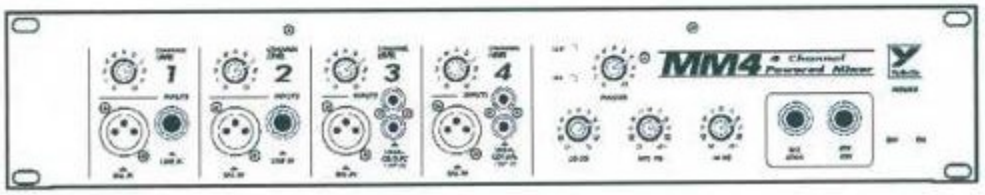
The current sound system comes equipped with overhead microphone cables and includes a hand-held microphone and wireless microphone system. These kits are designed to operate at different frequencies for the various games Bob's Space Racers® manufactures. The transmitter and receiver are set for the same frequency of operation. We have selected different channels for each of the games to minimize interference of signals from other sound systems.

We also have CD Players available. We originally used a Pioneer 6-disk player, but have switched to a Sony single-disk player. This switch was done to reduce the maintenance and to simplify the operation.

If you are interested in updating your sound system to one of the newer systems available, please call us at 386-677-0761 and ask to speak with a technician. The technician will help you determine exactly what is needed for your system to be updated.

OWNERS MANUAL
MANUEL de L'UTILISATEUR

Yorkville **MM4** 4 Channel Powered Mixer



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IMPORTANT SAFETY INSTRUCTIONS

INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS.

CAUTION:

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK).
NO USER SERVICEABLE PARTS INSIDE.

REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

Read Instructions:

The ***Owner's Manual*** should be read and understood before operation of your unit. Please, save these instructions for future reference.

Packaging:

Keep the box and packaging materials, in case the unit needs to be returned for service.

Warning:

When using electric products, basic precautions should always be followed, including the following:

Power Sources:

Your unit should be connected to a power source only of the voltage specified in the owners manual or as marked on the unit. This unit has a polarized plug. Do not use with an extension cord or receptacle unless the plug can be fully inserted. Precautions should be taken so that the grounding scheme on the unit is not defeated.

Hazards:

Do not place this product on an unstable cart, stand, tripod, bracket or table. The product may fall, causing serious personal injury and serious damage to the product. Use only with cart, stand, tripod, bracket, or table recommended by the manufacturer or sold with the product. Follow the manufacturer's instructions when installing the product and use mounting accessories recommended by the manufacturer.

The apparatus should not be exposed to dripping or splashing water; no objects filled with liquids should be placed on the apparatus.

Terminals marked with the "lightning bolt" are hazardous live; the external wiring connected to these terminals require installation by an instructed person or the use of ready made leads or cords.

No naked flame sources, such as lighted candles, should be placed on the apparatus.

Power Cord:

The AC supply cord should be routed so that it is unlikely that it will be damaged. If the AC supply cord is damaged DO NOT OPERATE THE UNIT.

Service:

The unit should be serviced only by qualified service personnel.

INSTRUCTIONS RELATIVES AU RISQUE DE FEU, CHOC ÉLECTRIQUE, OU BLESSURES AUX PERSONNES.

AVIS:

AFIN DE REDUIRE LES RISQUE DE CHOC ELECTRIQUE, N'ENLEVEZ PAS LE COUVERT (OU LE PANNEAU ARRIERE). NE CONTIENT AUCUNE PIECE REPARABLE PAR L'UTILISATEUR.

CONSULTEZ UN TECHNICIEN QUALIFIE POUR L'ENTRETIENT.

Veuillez lire le manuel:

Il contient des informations qui devraient êtres comprises avant l'opération de votre appareil. Conservez S.V.P. ces instructions pour consultations ultérieures

Emballage:

Conservez la boite au cas ou l'appareil devait être retourner pour réparation.

Warning:

Attention: Lors de l'utilisation de produits électrique, assurez-vous d'adhérer à des précautions de bases incluant celle qui suivent:

Alimentation:

L'appareil ne doit être branché qu'à une source d'alimentation correspondant au voltage spécifié dans le manuel ou tel qu'indiqué sur l'appareil. Cet appareil est équipé d'une prise d'alimentation polarisée. Ne pas utiliser cet appareil avec un cordon de raccordement à moins qu'il soit possible d'insérer complètement les trois lames. Des précautions doivent êtres prises afin d'eviter que le système de mise à la terre de l'appareil ne soit désengagé.

Hazard:

Ne pas placer cet appareil sur un chariot, un support, un trépied ou une table instables. L'appareil pourrait tomber et blesser quelqu'un ou subir des dommages importants. Utiliser seulement un chariot, un support, un trépied ou une table recommandés par le fabricant ou vendus avec le produit. Suivre les instructions du fabricant pour installer l'appareil et utiliser les accessoires recommandés par le fabricant.

Il convient de ne pas placer sur l'appareil de sources de flammes nues, telles que des bougies allumées.

L'appaeil ne doit pas être exposé à des égouttements d'eau ou des éclaboussures et qu'aucun objet rempli de liquide tel que des vases ne doit être placé sur l'appareil.

Les dispositifs marqués d'une symbole "d'éclair" sont des parties dangereuses au toucher et que les câblages extérieurs connectés à ces dispositifs de connection extérieure doivent être effectivés par un opérateur formé ou en utilisant des cordons déjà préparés.

Cordon d'alimentation:

Évitez d'endommager le cordon d'alimentation. N'UTILISEZ PAS L'APPAREIL si le cordon d'alimentation est endommagé.

Service:

Consultez un technicien qualifié pour l'entretien de votre appareil.

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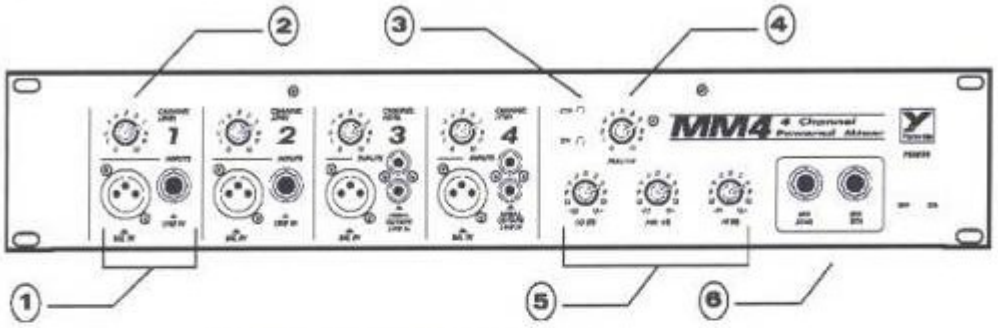
INTRODUCTION

Your new Micromix model mm-4 is the latest addition to our growing Micromix line of powered mixers. We at Yorkville Sound are confident that you will find your new MM-4 to be an efficient and versatile solution to your sound reinforcement needs. This manual contains information to help you get the maximum performance from your Micromix. We hope you will take the time to read it over.



1. MICROPHONE & LINE INPUTS

The MM-4 features both balanced microphone and unbalanced line inputs on channels 1 through 3. The standard XLR type microphone inputs are electronicallt balanced for maximum noise supression. The input characteristics match those of professional low impedence dynamic microphones such as the Shure SM-58 and the Image IM-400.

The LINE inputs are standard 1/4-inch phone jacks which accept single-ended signals from guitars, synthesizers, electric pianos, tape recorders, unbalance high-impedence microphones, and the like.

- ***Do not*** connect signals to both types of inputs on any one channel. Use either the unbalanced or the balanced input on any one channel, but not both. Connecting to both inputs on one channel will cause improper operation of the input circuit.

Channel 4 is a special channel, in which the LINE input (1/4-inch phone jack) has been replaced by two RCA jacks. The XLR balanced input functions identically to the other XLR inputs, but the RCA inputs are specifically intended to receive stereo signals from compact disk players or tape players. Within the MM-4, these stereo signals are electronically summed to a monophonic signal.

2. CHANNEL LEVEL CONTROLS

Each channel has a separate level control. Advancing this control increases the contribution of the associated channel's signal to the overall mix.

3. CLIP LED

The Clip LEDis located next to the master control. It will light when any signal anywhere within the mixer section gets to within 3dB of clipping. Under normal use, it is expected that this LED will flash for brief instants during the loudest musical peaks. If the Clip LED is off, you can be sure that the mixer section of the MM-4 is not clipping.

The LED circuitry is intended to indicate clipping *only* in the mixer section of the MM-4. It is not implemented as an indicator of clippeg in the power-amp section. Remember also that the Clip LED can't indicate clipping in any external amplifier connected to the MM-4.

4. MASTER CONTROL

The signals from the four channels are internally routed to the Master section, where they are combined into a monophonic signal. This signal is then routed to the EQ and then to the power amplifier within the MM-4. The Master control varies the level of this combined signal. The signal level sent to the EFFECTS LOOP SEND jack is also governed by the Master Control.

5. EQ SECTION

The tone conttrols provided by the MM-4 consist of a three band active shelving equalizer. The signal arriving from the Master Control passes through this on its way to the power amplifier. Within the EQ section, the signal is temporarily split into three components. The lowest frequency (bass) components may be adusted with to LO control, the middle (midrange) frequencies are varied by the Mid Control, and the HI control adjusts the high (treble) frequencies.

The numbers around the LO, MID, and HI dials indicate the amount of boost ot cut applied to the signal, in the decibels. The center or "0" positions correspond to a "flat" response where the signal level remains unchanged as it passes through the EQ. Rotating the LO control clockwise from this position will increase the BASS frequency components, while a counterclockwise rotation will decrease the BASS sounds.

When adjusting the EQ controls, it is best to begin by setting all three controls to their center "0" positions. From there you can experiment until you get the sound you like.

6.EFFECTS LOOP

An external effect such as a digital delay, echo, phaser, flanger, or parametric equalizer can be easily interfaced to th MM-4. Any effect device designed to operate at 0dB line levels will properly interface to your MM-4. As a rule, any device which is not foot operated will work just fine; "foot pedal" devices which are designed to accept a guitar directly can often be overloaded by standard line level signals.

Connect the input of the effect device to the SEND jackof thr MM-4 EFFECTS LOOP. Connect the output of the effect device to the RTN jack of the MM-4 EFFECTS LOOP. Now the MM-4's signal is routed through the effect device on its way to the MM-4's power amplifier.

The EFFECTS LOOP SEND jack may also be used as a line output jack. You can augment the MM-4's internal amplifier by connecting an external power amplifier's input to this jack.

Plugging into the EFFECTS LOOP RTN (Return) jack will disconnect the MM-4's direct internal signal path from the MM-4's power amplifier and substitute the signal present at the RTN jack. This means that you can use the EFFECTS LOOP to send the signal from the MM-4's mixer to an external power amplifier while using the MM-4's built-in power amplifier for some other purpose.

6.POWER AMPLIFIER

The MM-4 power amplifier delivers approximately 150 watts into a 4-Ohm load. There are two speaker output jacks on the rear panel of the MM-4. You may connect an 8-Ohm speaker to each jack, or you may connect one 4-Ohm speaker.

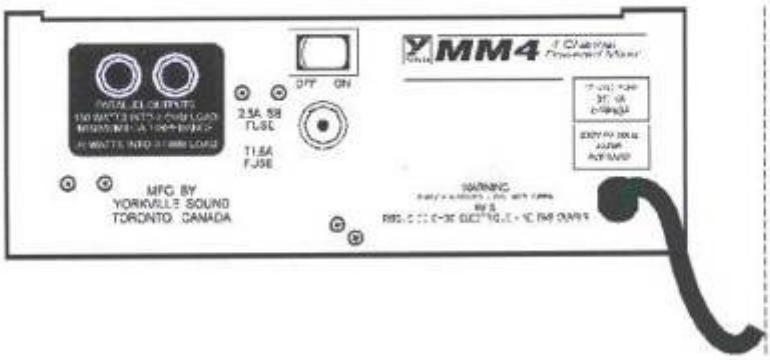
The MM-4's power amplifier is fully protected from all abnormal load conditions. Shorting the outputs of the MM-4 will not harm the unit. The power amplifier will "shut down" if it senses an improper load condition. Such a condition can result from connecting too many speakers, (too low a load-impedence), to the MM-4. In this case, the sound will be intermitent as the power amplifier repeatedly tests the load to determine if it can resume operation. The solution is, of course, to reduce the number of speakers you have connected

MM4 4 Channel Powered Mixer

Yorkville

SPECIFICATIONS

Power Output	140 Watts RMS @ 4-Ohms 90 Watts RMS @ 8-Ohms
Harmonic Distortion	< 1.0% at Full Power
Input sensitivity	1.0 Volt RMS
Output Load	4-Ohm minimum
Power Requirements	117 VAC 60 Hz 360 VA
(In Europe)	220 VAC 50 Hz 360 VA

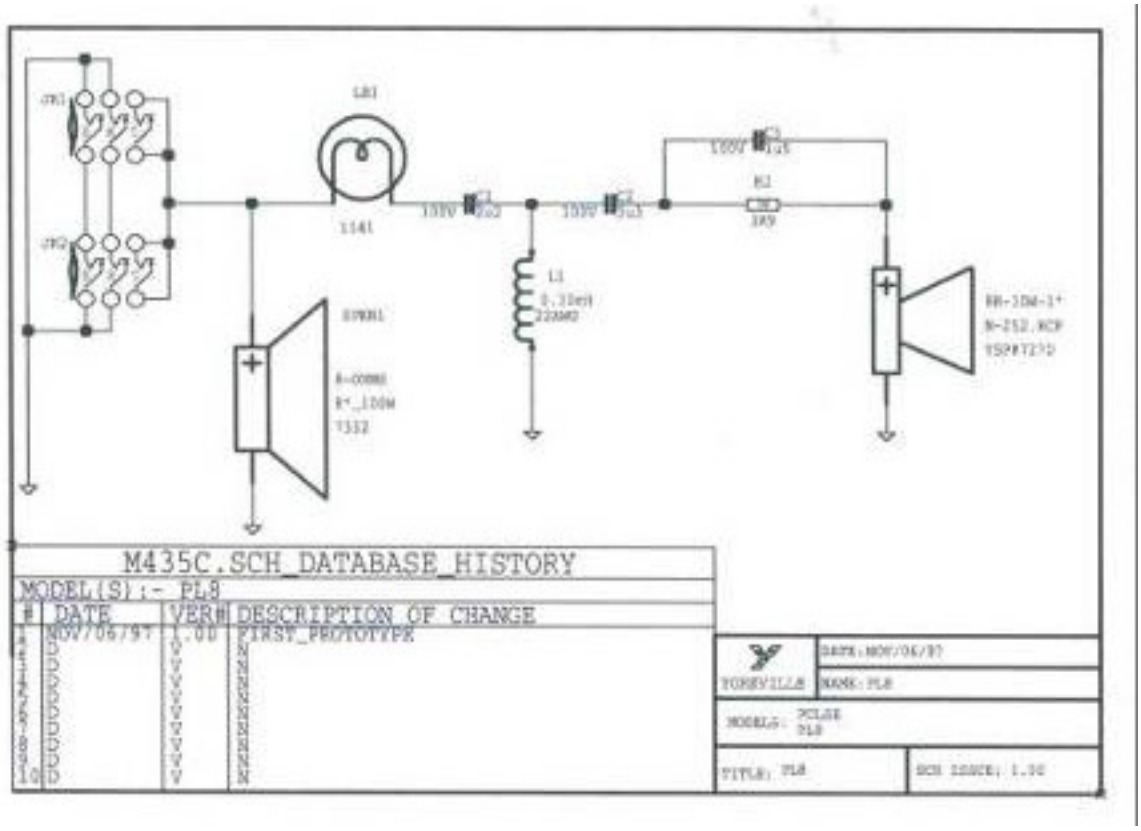


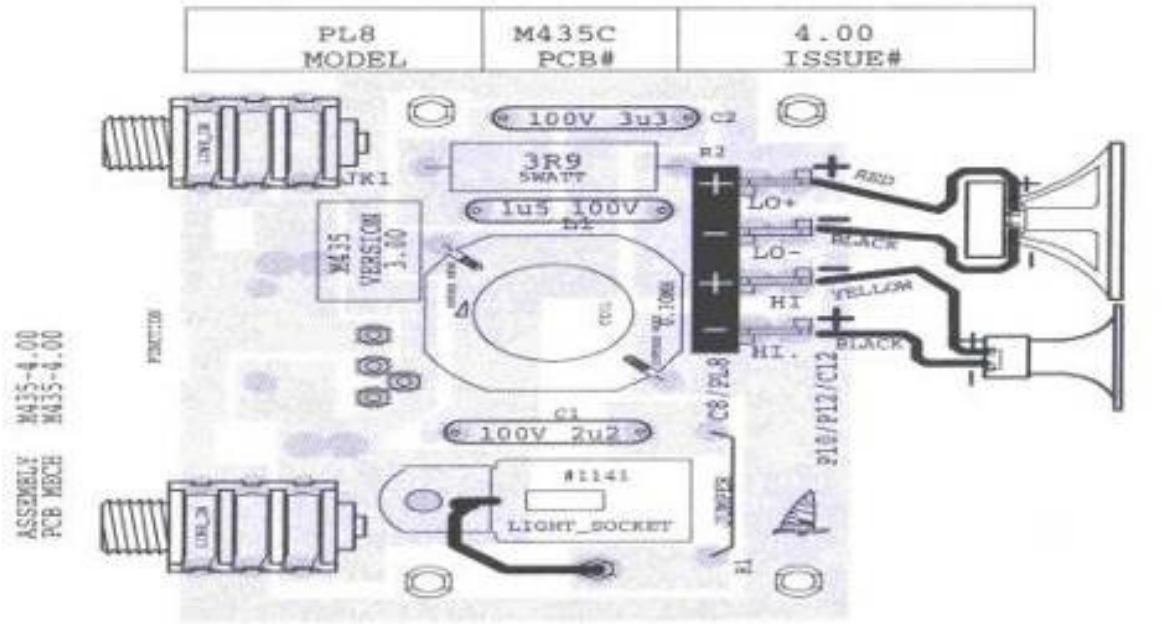
PRO STAR
by TELEX®

Operating Manual

UHF

Wireless Microphone System





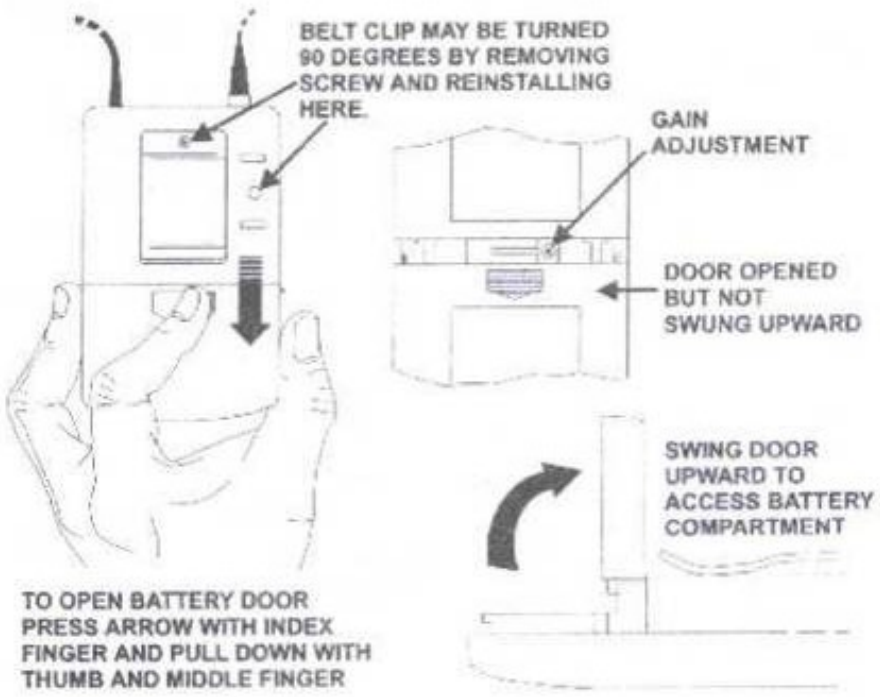
M435.PCB_DATABASE_HISTORY

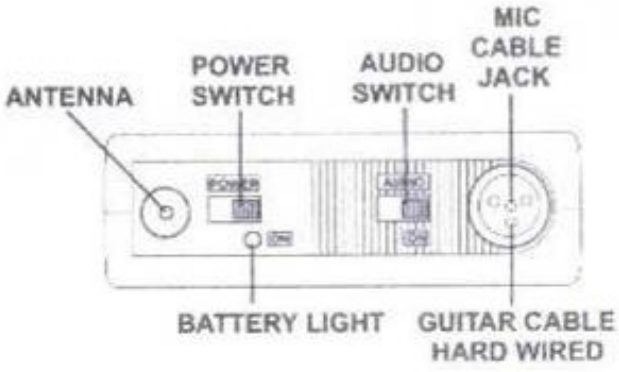
MODEL(S):- PL10/1070V/PM10/PL12/PM12/C12/C8

#	DATE	VER#	DESCRIPTION OF CHANGE
1	JAN/97	1.00P	FIRST_PROTOTYPE
2	JAN/28/97	2.000	ADD_R3
3	JUN/15/97	3.000	REDONE_FOR_C8/C12
4	OCT/15/97	4.000	REDONE_FOR_1_UP_SPREAD_FOR_TABS
5	DEC/08/97	4.00	TABS_ADDED_FOR_PL1070V
6	DDDDDD	VVVVVV	NNNNNN
7	DDDDDD	VVVVVV	NNNNNN
8	DDDDDD	VVVVVV	NNNNNN
9	DDDDDD	VVVVVV	NNNNNN
10	DDDDDD	VVVVVV	NNNNNN
11	DDDDDD	VVVVVV	NNNNNN

Belt Pack Set Up

Open the battery door and install a fresh 9 volt alkaline battery. Plug in your microphone. Clip or place the transmitter and microphone where desired and turn on the power switch. The battery light should flash once and go out. The "CARRIER" light at the receiver should be on at this time. Turn on the "AUDIO" switch. You are now ready to use the microphone.


BELT CLIP MAY BE TURNED 90 DEGREES BY REMOVING SCREW AND REINSTALLING HERE.
GAIN ADJUSTMENT
DOOR OPENED BUT NOT SWUNG UPWARD
SWING DOOR UPWARD TO ACCESS BATTERY COMPARTMENT
TO OPEN BATTERY DOOR PRESS ARROW WITH INDEX FINGER AND PULL DOWN WITH THUMB AND MIDDLE FINGER



SPECIFICATIONS

U1311 2, UH1 2, UGB11 2 Transmitter:

RF Power Output . . . . . 10 to 15 mW typical
Battery . . . . . 9.0VDC Alkaline
Battery Life . . . . . 8 to 12 hours typical
FCC . . . . . Type Accepted to FCC Part 74H

UR12, UGR12 Receiver:

RF Sensitivity . . . . . Less than 0.8 uV for 12 dB SINAD
Diversity . . . . . Full True Diversity
Audio Output Level, 1/4" in. jack . . . 0.775V RMS/1 00k load
Audio Output Level, XLR jack . . . . . 20 dBV, 600 Ohm load
Audio Frequency Response . . . . . 20 Hz to 15KHz ± 2dB
Audio Frequency Distortion . . . . . Less than 0.5%
Power . . . . . 12 VDC from supplied wall transformer
12 VDC from external battery or filtered power supply.
Part . . . . . 15 Notification

FCC REGULATIONS

The Telex Models UB12, UGB12, and UH12 are Type Accepted under United States Federal Communications Commission Part 74H. The UR1 2 and UGR1 2 Receivers are accepted under the Part 15 Notification Procedure of the Federal Communications, Commission. Licensing of Telex equipment is the user's responsibility and license ability depends upon the users classification, and frequency selected. Telex urges the user to contact the appropriate telecommunications authority before ordering and choosing frequencies.

CAUTION: Changes or modifications made by the user could void the user's authority to operate the equipment.

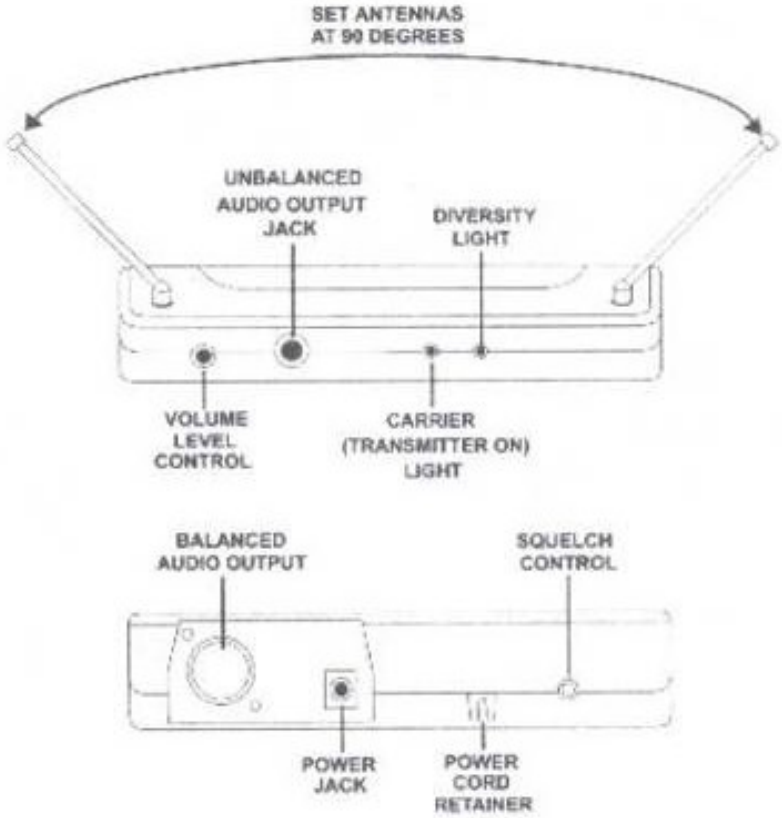
Receiver Set Up

Place the receiver in a location that is in direct line of sight to the transmitter. Unfold the antennas. Set them in a "rabbit ears" position as shown in the illustration. Plug the power supply into any convenient outlet. Plug the cable end of the supply into the power jack and route the cord through the retainer to prevent pull out. The "Diversity" light should come on at this time.

Connect an audio cable to either the 1/4 inch jack on the front or to the balanced output on the rear of the receiver. Connect the other end to your audio equipment. Set the output level control on the front of the receiver to the " 12 o'clock" position if you are using the 1/4 inch jack.

Diversity Light

The diversity light is a bi-color LED (orange/green) that is illuminated any time the receiver has power. When it changes color this indicates that the diversity circuit is activated to optimize reception.



Model PH-21 Microphone

General Description

The Telex Model PH-21 Headworn Microphone consists of a microphone assembly mounted on the pivot arm of an adjustable headband. This high-quality, lightweight headset is specifically designed to provide excellent performance as a vocal microphone for drummers and keyboard players. This is also designed for use in special event remote broadcasting, auctions and other handsfree broadcast applications.

The microphone assembly is attached by a spring clip to a pivot arm which rotates 360 degrees allowing the boom microphone to be properly positioned. The spring clip also allows the assembly to be worn with a variety of eyeglasses. An adjustable, field-replaceable clothing clip removes the cord weight from the head of the user for long-term comfort.

Microphone

The miniature close-talking electret microphone element is boom-mounted in a high-impact-resistant plastic housing. The boom can be swiveled over 180 degrees side-to-side to allow for precise positioning of the microphone. A foam windscreen is supplied with each microphone.

Headband

The split piece headband consists of two stainless steel springs sheathed in black nylon webbing. The two stainless steel springs are adjustable to 180 degrees. Head pads are conected to the headband by stainless steel sliders that permit over two inches (50 mm) of adjustment. The headband should be placed over the crown of the user's head for stable operation. The head pad cushions are adhesive-back polyester urethane foam and are field-replaceable.

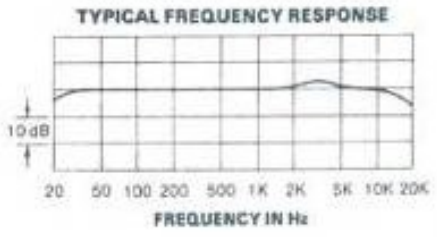
Model PH-21

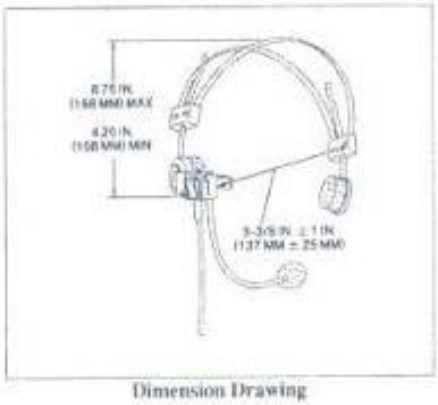
The Model PH-21 is terminated with a TA4F 4-pin plug that allows the microphone to be interfaced with the Telex PS10 Power Module and the Telex WT-50 Wireless Transmitter (see wiring diagram).

Specifications

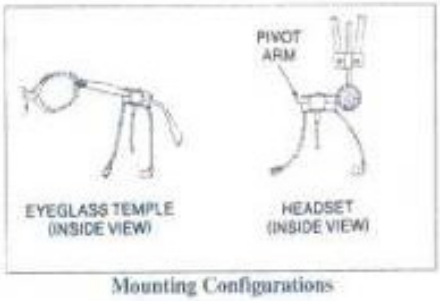
Element: Electret. Close-talking
Frequency Response: 20 to 20,000 Hz
Impedance: 3,000 Ohms
Output Level at 1 kHz: -60 dB (0 dB = I V/ %bar)
Maximum Sound Pressure: 130 dB
Supply Voltage: + 1.5 to 20 Vdc at pin 3 of headset connector
Cord: 3 ft (0.9 m)
Microphone Plug: TA4F Weight: 8 oz (227 grams)
Color: Black

Model PH-21 Head-Worn Microphone	64327-001
Replacement Windscreen	59747-001
Replacement Spring Clip	52878-000
Replacement Clothing Clip	63097-002
Replacement Head Cushions	63575-000
Replacement Carrying Pouch	57893-000

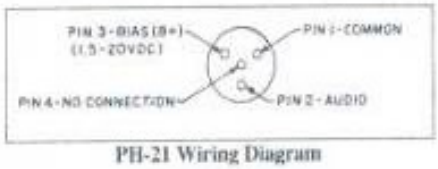




Dimension Drawing



Mounting Configurations



PH-21 Wiring Diagram

System Set Up

Talk or sing into the microphone at your normal volume and monitor the sound system. If the sound is distorted, try turning down the audio amplifier input control. You may also need to turn down the output level on the front of the receiver (if you are using the 1/4" jack) and/or the "GAIN" control on the transmitter.

If the sound is low or weak, you may have to increase one or more of the controls.

The squelch control on the back of the receiver may be adjusted to increase range or reduce interference. Turn the control counter-clockwise to increase range. **CAUTION! DOING SO WILL MAKE YOUR SYSTEM MORE SUSCEPTIBLE TO OUTSIDE INTERFERENCE!** Turn the control clockwise to reduce interference from noise and out side radio signals. It is usually best to set the squelch with the transmitter turned off. Turn the control counter-clockwise until you hear noise or interference over your sound system. Then turn it clockwise until the noise is squelched off. This setting will give you your best interference free range.

Battery and Battery Light

Use fresh 9 volt alkaline batteries from a quality manufacturer (8.4 volt ni-cad batteries may be used but will yield much shorter "on" time). When the power switch is turned on, the battery light will flash one time if the battery is good. If the light does not flash or stays lit continuously, the battery is weak or dead. If the light comes on during use, the battery is weakening and should be replaced as soon as possible.

2400 G SERIES MODULES ACCOUNTING SYSTEM

ACCOUNTING SYSTEM

On the 2400 Electronics the Accounting Systems is integrated in with the game electronics. There is no wiring harness to connect it to the rest of the game or individual units. The external wiring for the Accounting System, includes 2 cables plugged into the Master Relay Board. There is a connector marked 'MASTER 2 PRINTER PORT' ON THE Master Relay Board, which has a cable that runs down to the printer in the game, and a Ribbon Cable above the Spare Module that is labeled 'ACCOUNTING LCD". Even with the printer or the LCD cable not plugged in, the accounting system continues to accumulate information. Whenever a good LCD or printer is plugged in, all the tallied information will be available.

To locate the BSR MULTI-LINE LCD for the accounting system simply read the display. The message on the display will read out "ACCT2400", on the bottom left side of the display. When you turn the key on, it will display 'PRINT REPORT?' across the top. On the bottom line it will say 'NEXT' above the far left button and above the far right button it will read 'yes". If you press the button below the word "NEXT", it will sequence through a number of settings from 'PRINT REPORT' to 'HI PLAYERS' to 'HI GAMES' to 'LO PLAYERS' to 'LO GAMES', then to 'erase data'. If you then press button below the word 'YES' when the display reads 'ERASE DATA' it will clear the data and default back to 'PRINT REPORT' display.

2400 G MODULE ELECTRONICS' ACCOUNTING SYSTEM OVERVIEW

```
Bobs Space Racers
AccuTrak Accounting Report

Report Date: 05/12/2003
Report Time: 10:17:06
Game ID:373

Last cleared at: 05/06/2003 12:33:38

Level 1 Report:
Players in $ 2 Games  = 00000
Total $ 2  Games      = 00000
Players in $ 1 Games  = 00000
Total $ 1 Games       = 00000
Total $               = 00000

Reset Players         = 00000
Reset Games           = 00000
Reset $               = 00000

Level 2 Report:
Games with 1 player   = 00000
Games with 2 players  = 00000
Games with 3 players  = 00000
Games with 4 players  = 00000
Games with 5 players  = 00000
Games with 6 players  = 00000
Games with 7 players  = 00000
Games with 8 players  = 00000
Games with 9 players  = 00000
Games with 10 players = 00000
Games with 11 players = 00000
Games with 12 players = 00000
Games with 13 players = 00000
Games with 14 players = 00000
Games with 15 players = 00000
Games with 16+ players= 00000

Level 3 Report:
Non-resetable Counters:
Players in $ 2 Games  = 0000000
Total $ 2  Games      = 0000000
Players in $ 1 Games  = 0000054
Total $ 1 Games       = 0000029
Reset Players         = 0001298
Reset Games           = 0000000

Level 4 Report:
Hourly Reports:
  Date-Time  Games  Players  Receipts
05/08 12:00   00     00000     00000
05/08 13:00   00     00000     00000
05/08 14:00   00     00000     00000
05/08 15:00   00     00000     00000
05/08 16:00   00     00000     00000
05/08 17:00   00     00000     00000
05/09 10:00   00     00000     00000
05/09 11:00   00     00000     00000
05/09 12:00   00     00000     00000
05/09 13:00   00     00000     00000
05/09 14:00   00     00000     00000
05/09 15:00   00     00000     00000
05/09 16:00   00     00000     00000
05/12 20:00   00     00000     00000 *
```

When the display reads 'PRINT REPORT' and you press the right hand button below the 'YES', as shown on the previous page, a report will be printed, similar to the one shown on the left of this page. (See example at left). If no report is printed then you will need to make certain the printer is turned on. A green light on the face of the printer unit will come on when the printer has power to it. Also, check the paper supply to the printer; the paper is found inside the unit. If these items are fine and you still have no printing capabilities, then you will need to check the connection on the Master Relay Board. Examine the 'MASTER 2 PRINTER PORT' on the Master Relay Board and make certain it is securely plugged in.

A printed report will have a heading that includes: 1) the Current Time and Date; 2) the Game Identification Number; and, 3) the Last Time and Date the Information was cleared from the Accounting System. Note: You should recognize it as the last time you cleared your meters! The report will then print a LEVEL 1 report providing you with the totals since the last time the system was cleared.

This Accounting System will also keep track of the total dollars for you. If you have the price sign option and if the price sign reads correctly, then this system will accumulate how many dollars the game was supposed to bring in since the last time it was cleared.

After Level 1, the report prints Level 2 which provides you with the number of races that were 1-player games, 2-player games, 3-player games, et cetera, up through 16-player games. If you have more than 16 units, then all of the games played with 16 or more players or more will be tallied on the "16+ players" line on the printed report.

Below Level 2 is Level 3, this consists of a set of total races that have ever been played. These values do not get cleared when you 'ERASE DATA' and are considered non-resettable. (This part replaces the Mechanical Meters you may have in some of your older games).

2400 G MODULE ELECTRONICS' ACCOUNTING SYSTEM OVERVIEW

The last part to be printed is Level 4, which is an hourly report. This informs you of how many games were played each hour the machine was powered up (turned on). If the machine was not powered up there will be no report for that time frame.

When you are done using the BSR MULTI-LINE LCD, you need to turn the key to the "off" position. This key needs to be in the "off" position during game operation as well as when the game itself is powered down – it will not affect the operation of the game. If the key is left in the "on" position during the game operation it will not affect the game, nor will it affect the function of the BSR MULTI-LINE LCD. However, if the key is left in the "on" position it will affect your security! It will allow anyone to have access to your game's financial information and they will be able to erase it before you have a chance to record it in your books! It is very important that you do not leave the key in the "on" position for safety and security reasons!

Below that it prints a LEVEL 3 report which is a set of total races since that have ever been played. These values don't get cleared when you 'ERASE DATA' and are considered non-resettable (they replace the old mechanical meters).

Lastly it prints the LEVEL 4 report which is a hourly report. This will report how many games were played each hour the machine was powered up. If the machine was not powered up there will be no report for that hour.

When you are done using the MULTI-LINE LCD to get information, the key should be turned off. This includes during a race. If the key is left on during a race, from the time that the forward button is pressed, until the end of the race, the MULTI-LINE LCD display will behave as it had no key in it. It is important however, for security reasons that you do not leave the key in the machine and you do not leave the key turned on. Any person could clear all the data if you do.

WHEN CALLING FOR SERVICE

1. When calling for service, please check the service manual first. Many times the answer to your problem has been addressed in this documentation.

2. Please make sure you have the serial number of the game ready when you call.

3. If this is a repeat call, please tell the service technician that you have made a previous call regarding this problem. This way we will be able to retrieve the history on your game allowing us to serve you better and save you time.

4. Please retain proof of purchase for your product. This might be requested for warranty repairs.

5. Please call from the game if possible since we might need you to check certain things on the game while we are on the telephone with you.

IF YOU HAVE ANY QUESTIONS OR COMMENTS, PLEASE CALL OUR SERVICE DEPARTMENT AT

(386) 677-0761
(MONDAY – FRIDAY, 8:30AM – 5:00PM EST, EXCLUDING HOLIDAYS)

(or)

EMAIL QUESTIONS TO: Tech@BobsSpaceRacers.com

(or)

VISIT THE "CUSTOMER SUPPORT" SECTION ON OUR WEBSITE:
WWW.BOBSSPACERACERS.COM